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Paper TRADE JOURNAL

REG. U. S. PAT. OFF.

VOLUME 125, No. 17 OCTOBER 23, 1947

WOOD PULP

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Designers & Builders
Paper Making Machinery

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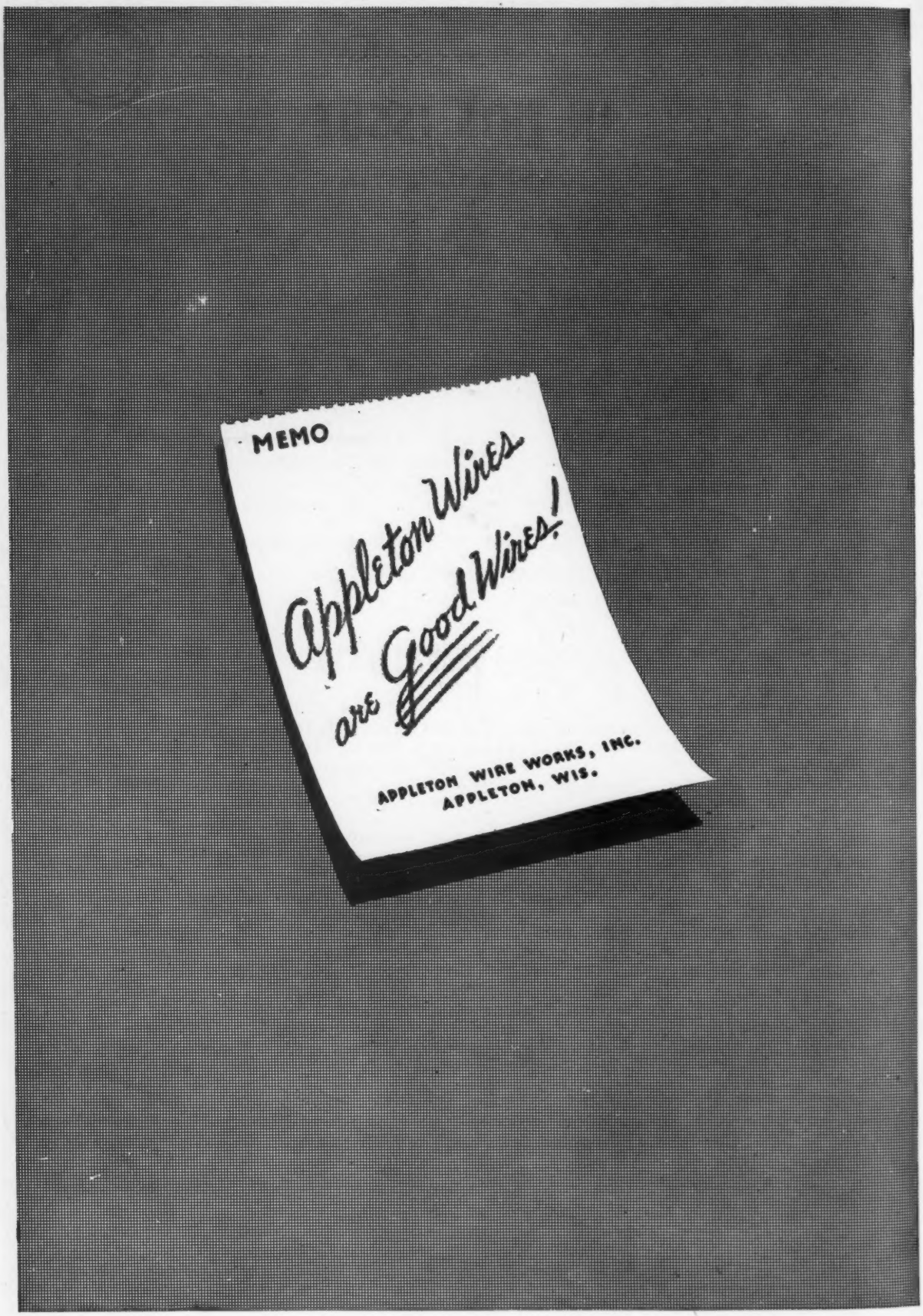
CALENDAR OF COMING EVENTS

October 23-24, 1947—TAPPI Fibrous Agricultural Residues Meeting, Alton, Ill.

October 27-29, 1947—The National Paper Trade Association of the U. S., Inc., Semi-annual Convention, Hotel Sherman, Chicago.

November 3-5, 1947—TAPPI Second Engineering Conference, Philadelphia, Pa.

May 18-20, 1948—American Pulp and Paper Mill Superintendents Association, Annual Meeting, Roosevelt Hotel, New Orleans, La.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Paper TRADE JOURNAL

VOL. 125, NO. 17 REG. U.S. PAT. OFF. OCTOBER 23, 1947

Investment Analysts Hear from Clifford

CHICAGO — Speaking before the Investment Analysts Club of Chicago on Wednesday noon, October 15, W. H. Clifford, vice-president of the Kimberly-Clark Corporation, told the more than 125 investment firm executives present that the paper industry is now on a sounder basis than ever before and that there was very little likelihood that it would suffer from over-expansion "for as many years as you would care to guess."

Mr. Clifford indicated that in the past the paper industry had had "tough going, not alone because of over-expansion but because of incompetence on the part of certain interests which had entered the field." He added that because of the close relationship of the industry to the press "perhaps the troubles of the industry had been over-publicized." Now, the Kimberly-Clark executive said, "it takes real money to get into the paper business. Today you need blue chips — all blue chips — and this means that those who enter the industry will go in with caution." He said, too, that "the industry is not exactly a gold mine" adding that in the lines his firm represented a 1½ a year turnover was "not too attractive either."

Mr. Clifford's talk, which was a decided compliment to the industry inasmuch as the invitation indicated the widespread interest in the paper industry on the part of the investment world, centered around conditions in the book paper and newsprint field. He said that the industry was not over built, that it might be in one or two segments but that when the over-all industry was concerned "the future was brighter than ever before."

His specific remarks about book papers and newsprint were prefaced by an outline of general business conditions including the strong developments within the paperboard industry where he felt that production should approach a balance with consumption quicker than in some other groups.

As far as newsprint is concerned, Mr. Clifford placed no reliance in Europe as a source for pulp — and pulp, he said, was the basic problem of all.

"Canada and the South are the two potentials for newsprint," Mr. Clifford said. "There is no hope from Europe. Their pulp producing capacity was not only reduced to a minimum during the war but right now the Finnish production is going into Russian hands and they allocate as they see fit. Swedish mills are on a fixed schedule basis, a quantity of the pulp is needed for fuel and, on top of that, the Swedish pulp producers are finding that it is to their financial advantage to manufacture and export the finished article rather than to ship the pulp as is."

Mr. Clifford also reported some sad experiences of those who had been using certain grades of exported pulp. He recited the instance of one American buyer who purchased French pulp to find that ten percent of it was useless and that the finished transaction finally represented a $2000 a ton cost as compared to the $200 anticipated.

He felt that real progress could be made in the South and outlined in detail Kimberly-Clark's managerial responsibilities in behalf of a Southern group of industrialists and publishers

(Continued on page 38)

E. P. McGINN

Has been appointed Technical Development Editor of PAPER TRADE JOURNAL.

A graduate of Syracuse University, (Pulp and Paper Course), he brings to the Lockwood Trade Journal Company a varied experience in all phases of paper manufacturing.

Developments in processes, equipment and supplies for pulp and paper making are occurring so rapidly and are of such widespread significance that the Journal will offer, through Mr. McGinn, interesting original development articles for the readers of PAPER TRADE JOURNAL. In addition to his duties as Technical Development Editor, he will supervise the activities of the Market Research Department of PAPER TRADE JOURNAL and LOCKWOOD'S DIRECTORY.

Brown and Capehart See More Newsprint

CHICAGO — Two men who have studied newsprint shortages and production potentialities, Senator Homer Capehart of Indiana and Congressman Clarence Brown of Ohio, were speakers at the annual meeting of the Inland Daily Press Association, held in Chicago this week. Chairman Brown of the House Committee on newsprint, who returned from Canada to address the meeting, said that Canadian producers have assured him they will keep expanding the output. "Sometime in 1950," Brown told the publishers, "combined production of Canada, Newfoundland and the United States may equal the demand here."

Brown added that there is every indication there will be higher production in 1948 "but probably at higher prices."

"I question the necessity for a general price rise," he said, and added that "however, it must be conceded that some costs are higher." The Congressman warned that it is necessary to increase United States newsprint production to help assure price stability and provide more paper, but doubted that Alaskan production could compete with the prices of the States and Canada.

Senator Capehart declared that all the natural resources are available in Alaska, and that American producers and publishers would have to decide as to the advisability of developing it. He pointed out that America now imports 80 percent of its supply and stated that he would favor government aid in power and housing development to encourage Alaskan production.

Senator Capehart said it was "not healthy to depend on a foreign country when courageous publishers and editors are needed to combat communism but said he would not "help publishers to help the government control a free press." "I will not help you to help encourage the government to do its own printing. It would be a catastrophe if the fight of courageous and honest publishers would be hampered by a shortage of newsprint" but "I will do anything short of return of paper rationing and price control to aid the publishers."

Senator Capehart supplemented the Brown report by saying that Alaska has the timber, with 78 billion cubic feet available, and power sites would furnish the major problem.

Stirling Is Tendered Farewell Dinner

MECHANICVILLE, N. Y.—Thomas H. Stirling has resigned as manager of the West Virginia Pulp & Paper Company after forty years of service. He was guest of honor at a recent party tendered by the office and supervisory employes at which it was announced that Fred A. Coe would be his successor. The latter has been connected with the firm for about thirty years in an executive capacity.

The dinner was climaxed with the gift of a letter of credit to be used for travel purposes by Mr. and Mrs. Stirling on a contemplated trip to the British Isles and points of interest in Europe. In accepting the gift he reviewed his years of service with the firm, starting in 1899 at the Piedmont, W. Va. mill; from 1900 to 1907 as superintendent and assistant manager of the Covington, Va., mill and his period of service at the local plant.

Mr. Stirling will continue to serve as a member of the board of directors and also a member of the executive committee of the concern. Similar parties were also held in the various departments recently in honor of the retirement of Charles M. Wetherbeen, soda mill superintendent; Ralph N. Clark, machine shop foreman; Thomas I. Walker, cutter room foreman; Oliver W. Carlton, super-calender foremen, and John Tweedie, machine room foreman, who also retired on October 1.

Thilmany's Hazel Leedke Again Heads Nurse Group

KAUKAUNA, Wis. — Mrs. Hazel Leedke, chief nurse of Thilmany Pulp and Paper Company, was reelected general chairman of the Industrial Nursing section of the National Safety Congress in Chicago, October 6-8. She was presented with a certificate of appreciation on October 7 by Oscar Lehman, safety director of the Chrysler Corporation, on behalf of the National Safety Council.

L. C. Smith, industrial relations director at Thilmany, represented management on a five-man panel discussion on the nurses' program.

Clifford Kemp, also from the Thilmany mill, addressed the paper and pulp safety session on "Hazards in Manufacturing Pertaining to Big Mills."

Kimberly Mill Names Van Hout to Safety Post

KIMBERLY, Wis.—William Van Hout is the new safety director at the Kimberly mill of Kimberly-Clark Corporation, succeeding A. J. (Dud) Courchane, who has resigned to enter private business. Van Hout served in that capacity during the time Courchane was in service in World War II.

W. R. CAHILL
Nekoosa-Edwards names him Director of Personnel Administration

Employes of the pulp department of the mill were given a party Wednesday evening, October 1, in recognition of their perfect safety record during a six-month contest. This was for Tours 1 and 3, and a similar party will be given October 15 for Tours 3 and 4.

J. T. Doerfler, mill manager, congratulated the department and praised it for its safety spirit. Don Porter of the Neenah pulpwood division staff said that the department was outstanding in Kimberly-Clark. A. C. McIntyre, head of the Kimberly pulp department, was master of ceremonies.

Memphis, Tenn., Southern Paper Assn. Picks Myers

Mayer Myers, president of the Mayer Myers Paper Co., of Memphis, was elected president of the Southern Paper Association at the recent annual convention at Galveson, Texas.

The Association includes wholesale paper companies in Tennessee, Arkansas, Mississippi, Louisiana, Alabama, Georgia and Florida.

This honor comes to a man who in 1910, at 18, took a job as office boy with Memphis Paper Co. He rose to the position of city sales representative for the company and then went into his own business in 1919. In 1942 Mr. Myers was appointed as a member of a national committee to advise OPA on the paper industry.

"The paper industry has been very good to me," Mr. Myers said, "and I am thankful that in America the way is still open under free enterprise for a young man to start at the bottom in industry and, with the cooperation of his fellow workers, attain a position of service in business and in his community."

NEPCO Names Cahill To Head Personnel

PORT EDWARDS, Wis.—William R. Cahill has assumed the title of director of personnel administration of the Nekoosa-Edwards Paper Company according to NEPCO president and general manager John E. Alexander. The appointment was effective September 15.

Mr. Cahill joined the NEPCO organization in 1922, starting in the Port Edwards finishing department. In his 25 years with the company he has accumulated a broad background of practical experience and a wide knowledge of company policies. He has worked successively in the mill office, accounting department, sales and scheduling, and the department of priorities and government statistics which he headed during the recent war years. As head of the latter department he was responsible for the handling of the intricate details connected with government allocation of raw materials vital to the operation of the mills.

Mr. Cahill has been associated with Mr. F. H. Rosebush in the department of personnel administration since March 1, 1945. Mr. Rosebush will continue in this department with responsibilities and duties such as he has been carrying on in the past.

Dunbar Talks Before Springfield Ad Club

SPRINGFIELD, Mass.—Edson S. Dunbar, advertising manager for Crocker McElwain Co. of Holyoke was the first speaker of the year for the Springfield Ad Club which recently began its 36th year.

Dunbar spoke on "Direct advertising and paper." He is well known to advertising men and women and for many years was connected with the Springfield Ad club, serving at one time as program chairman. He is past president of the Paper Makers Advertising Association and past director and treasurer of the Direct Mail Advertising Association. During the war he was the originator, first chairman and first vice-president of the Graphic Arts Victory Committee which coordinated printing with the war effort.

Mississippi Forestry Group Elects DeWeese

JACKSON, Miss.—At the tenth annual convention of the Mississippi Forestry and Chemurgic Association here, Thomas DeWeese, of Philadelphia, a director of the Southern Pine Association, was elected president of the organization. He succeeds A. W. Nelson, of Meridian, who was named vice-president.

A. K. Dexter, forester with the International Paper Company at Canton, was renamed secretary-treasurer, and Frank Pittman, Jackson, was reelected executive secretary.

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Union Bag & Paper Starts 5th Machine

SAVANNAH, Ga.—A giant paper machine, the fifth to be installed in the Savannah plant of Union Bag & Paper Corporation, went on the production line last week with company officials present to witness the first test run of the equipment which has a daily production capacity of 150 tons of kraft paper.

"The new paper-making machine, which is almost the length of a city block and produces a continuous sheet of paper 18½ feet wide, was manufactured by the Pusey Jones Company of Wilmington, Del.," it was stated. "Construction work on the building housing the new machine was started about a year ago.

"Practically all of the paper produced on the new machine will be converted into bags in the bag division of the Savannah plant where more than 1,500 people are employed," the Morning News continued.

G. W. E. Nicholson, vice-president of Union Bag & Paper Corporation in charge of manufacturing, and a former resident manager of the Savannah plant, was present for the test runs of the new machine, as were several consultants in the pulp and paper industry whose services had been retained during the period of the machine's erection.

Union Bag & Paper Corporation's Savannah plant which has often been referred to as the largest integrated pulp and paper mill and bag factory in the world, is the only plant of its kind having five 234-inch paper machines under one roof, it was pointed out by company officials.

With the starting of the fifth paper machine, the Savannah plant completed the final phases of its current postwar expansion program which has seen the installation of precipitators to reduce smoke and odor, the addition of 200,000 square feet of floor space to the big manufacturing division, and the erection and equipping of the large box factory.

The total production of the five machines now in operation at Union Bag is approximately 1,000 tons of kraft paper and kraft board daily, it was stated.

Millar Fetes Martens on Half Century Service

NEW YORK — A golden anniversary dinner was tendered by Geo. W. Millar & Company, Inc., to Walter H. Martens, manager of their paper stock department, who joined Millar's organization on October 15, 1897—exactly 50 years ago.

A sumptuous dinner was served at the New York Athletic Club after which Judge John J. Dillon, who as toastmaster, congratulated Mr. Martens on his record and long service, and he then called on Jim Levens, president of Millar, who after a suitable congratulatory speech presented a fine console radio and record player to Mr. Martens in token of his many years of service.

Mr. Martens responded with some well-chosen remarks about the old times prevailing in 1897, after which Judge Dillon called on Larry McMahon to take over and the rest of the evening was devoted to music and singing by Joe Barbieri, John McHugh, Frank Spad and Larry McMahon. A quartet composed of Gus Risley, Lew Greenman, John Murphy and Bill Jennings sang some of the old songs, and Jimmy Norton folowed with some Irish jigs, which made a big hit.

Millar has now four members in its 50 Year Service Club, J. J. Dillon, J. F. Levens, George Breeze and W. H. Martens.

T. NOEL BLAND

Who last week was named General Manager of Fibreboard Products, Inc.

Sorg Buys Land At Howe Sound

VANCOUVER, B. C.—The Sorg Pulp Company has bought the hotel, wharf, and other property at Seaside Park, at Howe Sound, B. C. Seaside Park, in pre-war years, was a popular summer resort on Howe Sound.

The Port Mellon plant of the Sorg company was developed in much later years immediately adjacent and now the Sorg interests have purchased the Seaside property and are planning an improvement and expansion program. The new work calls for installation of modern equipment, machinery and cafeteria and the erection of staff residences and family homes.

The present combined population of Port Mellon and Seaside is 800.

The Port Mellon plant daily produces 160 tons of unbleached kraft pulp and also turns out 1,500,000 feet of lumber per month.

International Plans $22 Million for South

NEW YORK—Eleven southern states will feel the impact during 1948-1949 of an additional expenditure of $22 million by International Paper Company for modernization and expansion of its eight southern mills, other southern properties, and for the purchase of additional woodlands. "One result of this program," John H. Hinman, president of the company announced, "will be to increase the productive capacity of our southern kraft mills by 900 tons of kraft board and 100 tons of kraft paper daily. This is the equivalent of the output of two large kraft mills."

This brings to more than $40 million company expenditures of this kind authorized for the period 1947 - 1949 for this area. It does not take into consideration large expenditures for normal repair and replacement work which last year came to over $11 million.

All areas where the company has mills in the south will feel this spending program, Mr. Hinman said. The largest amounts will be spent in Panama City, Florida; Bastrop (two mills), and Springhill, Louisiana and Camden, Arkansas. Other mills are at Georgetown, South Carolina; Mobile, Alabama; and Moss Point, Mississippi.

"One of our objectives," Mr. Hinman said, "is to achieve the lowest possible cost of production by modernization of equipment, improvement in techniques and methods, and the substitution of the best modern equipment for that which has been put out-of-date by technological advances. Low-cost production is very important to the south and to our employees. Only low-cost production makes low prices possible, and low costs help us to expand markets and thus bring more money into the southern states. Furthermore, a company which has an adequate margin between costs and prices can afford to do the research work which again leads to increased sales and a larger income for the south.

"To our employees, low costs are the best possible form of job security. They mean that we can get business and afford to take business even under temporary unfavorable conditions.

"Expansion of our productive capacity has been made necessary by the tremendous growth in the demand for kraft board and kraft paper which has taken place during the past two decades, but the demand has been stimulated by the magnificent service performed by kraft containers of all kinds during World War II when this product of the south was a major factor in helping America to win the battle of supply.

"Our expenditures during the next two years also reflect the inability of the company to modernize its equipment during the war years or immediately thereafter."

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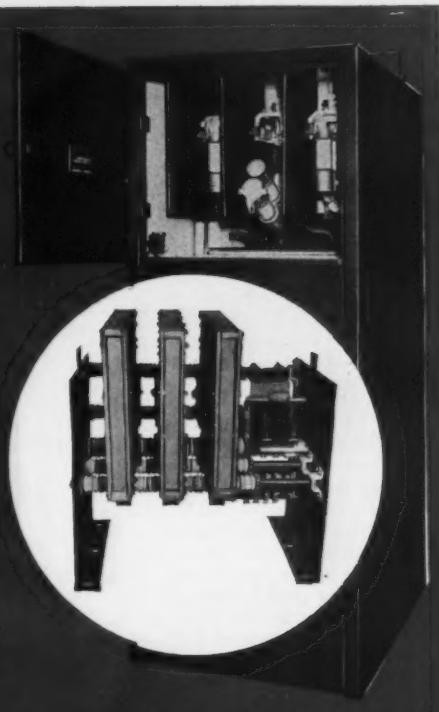

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Because they operate in air, they eliminate the problem of handling oil. And tip life of airbreak contactors is many times that of comparable oil-immersed tips.

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NEPCO Makes Ready New Filter Plant

PORT EDWARDS, Wis.—In order that bleached kraft pulp of maximum brightness may be produced when the new Nekoosa bleach plant goes into operation, the Nekoosa-Edwards Paper Company, has constructed a modern gravity type filter plant at the Nekoosa mill. The new plant is designed to filter 3,600 gallons of water per minute and plans of equipment are so arranged that additional beds can be installed if and when increased capacity is necessary. The use of pure spring water from the company's man-made Nepco Lake will continue.

The 52 by 75 foot filter plant building houses a coagulation basin and six filter beds using anthrafilt as a filtering medium. Anthrafilt is a finely ground anthracite coal thoroughly washed and carefully screened to the proper uniform size. Impurities in the water are taken out by the anthrafilt as the water passes through it and the filtered water, in the case of the Nekoosa plant, is expected to have a color of five parts per million or less.

When the water is pumped from the Nepco Lake settling basin to the new filter plant it enters the coagulation basin. Here it is treated to support the formation of a floccule which assists in the filtering process. The water then passes through the filter beds and on to the bleach plant. The filter beds are supplied with backwashing equipment in order that frequent cleansing of the anthrafilt may be accomplished with as little effort as possible. All pumps and valves in the new plant are automatically controlled from operating panels conveniently located at each filter bed.

Nekoosa-Edwards prepares its new filter tank for bleached Kraft pulp production

B. L. Berklund Named to Nekoosa-Edwards Forestry Staff

PORT EDWARDS, Wis.—Bruno L. Berklund has joined the Woodlands Department of the Nekoosa-Edwards Paper Company. Mr. Berklund will be engaged chiefly in a land inventory program which includes cruising and evaluating Nekoosa-Edwards timber holdings and prospective land purchases.

Silvicultural treatment for mature and immature timber and plantations will be studied and recommended, and he will also co-operate with the other foresters in working up a management plan for the entire forest holdings.

A 1942 graduate of the University of Minnesota with a degree in Forestry, Bruno Berklund took his preliminary training at the River Falls State Teachers' College at River Falls, Wisconsin. After serving for three years as a bombardier in the Air Forces, Berklund returned to the University of Minnesota for further study toward a master's degree in Forestry and also served as an assistant in the Forestry department, where he did graduate work in silviculture and forestry. In addition to his academic background, Mr. Berklund has had summer experience with the U. S. Forest Service in the state of Washington, where he specialized in protection work and cruising.

Wisconsin Council Seeks Higher Safety Standards

MILWAUKEE, Wis. — The Wisconsin Council of Safety will conduct a series of conferences to combat the increasing number of industrial accidents, according to Carlton Mauthe, Fond du Lac, president of the council. His statement followed a meeting of the council's board of directors, called to discuss the accident rate in industry and injuries to workers while off the job.

Clinics on the problem will be held next spring at Manitowoc and Eau Claire, with safety administrators from industrial plants asked to attend. There will be four regional safety conferences in May. Fox river valley industrialists will meet at Neenah-Menasha, Rock river at Janesville, Wisconsin river at Wisconsin Rapids, and Mississippi valley at Eau Claire or La Crosse.

A statewide midwinter conference is planned for Milwaukee next January 30.

Kennebec Crew Aims At 28,000 Cords

AUGUSTA, Me.—The Kennebec Pulp & Paper Company, division of the Hudson Pulp & Paper Corporation, currently has a crew of 450 men working in the woods near Little and Big Spencer Lakes, in northern Maine, where the company plans to produce 28,000 cords of pulpwood this season.

Universal Plant to Fill City Block

HOBOKEN, N. J.—The first foundation pile was driven October 15 in preparation for the immediate erection of a 50,000-square-foot brick and concrete addition to the present 48,000 foot plant of the Universal Folding Box Company, Inc. The structure, to be built by James Mitchell & Company of Jersey City, is expected to be completed in about six months and will embody every feature of modern construction to facilitate production and promote the health and general welfare of the employees. It will occupy the entire city block bounded by Madison, Monroe, 12th and 13th streets, and will be one of the largest plants in its field on the Atlantic Seaboard.

The Universal organization was founded in New York in 1910 by S. Herman Batkin and was moved to Hoboken 11 years ago. Mr. Batkin is president, and his son, Stanley I. Batkin, is secretary.

Behind the company's decision to double the size of its Hoboken plant lies a train of incidents that nearly cost Hoboken the loss of one of its major industries. Universal had virtually concluded arrangements for acquiring from the government a war surplus factory in Connecticut, when Mayor Fred M. DeSapio of Hoboken heard of it, Stanley Batkin said.

"The mayor called on us several times and convinced us that while there may have been an initial saving in acquiring the war surplus factory out of the state, no city in Connecticut has the facilities and natural advantages that Hoboken has to offer to industry. So we decided upon building instead of moving, and we are satisfied that we heeded Mayor DeSapio's advice."

Paper

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10-23-47

FINANCE

Newsprint Shares React Favorably

TORONTO — Last week's meeting in Toronto of the United States Congressional newsprint committee and United States publishers with leaders in the Canadian newsprint industry is reported to have had a stimulating effect on the Canadian newsprint stocks. The outstanding feature of the trading on the stock markets this week has been movement upward of the pulp and paper group. The index for the group was at a new high by midweek and within 8.5 percent of the 1946 high at Montreal—410.80.

Investors apparently noted that United States demand for newsprint was estimated at about 5 percent above supply for 1947-48 and that Canadian manufacturers were apparently prepared to pass any increased costs on to consumers by increasing their prices and that the United States demand was likely to hold up for another year.

These considerations are given as indicating that profits are likely to hold at present satisfactory levels for another year at least. Added to all this is the further fact that most of the paper stocks are presently selling at what is regarded as a low price-earnings ratio. Many have been selling at from five to seven times prospective 1947 earnings. Profits this year have been excellent on the basis of the interim reports pubished. Total net profit for the first six months of 1947 for seven companies publishing an interim report was 90.5 percent of their entire profit for the whole of the previous year.

The pulp and paper industry, investors point out, has improved its financial position in recent years. Working capital positions are stronger, debt has been cut and capital structures put on a sounder basis.

Indicative of the change in sentiment, according to *The Financial Post,*

(Continued on page 20)

Gaylord Shares Now All in Common Stock

BOGALUSA, La. — Gaylord Container Corporation reported this week that at the close of business October 14, 1947, all of the company's 5½ percent cumulative convertible preferred stock had either been converted into common stock or had been redeemed.

Using its own funds the company on October 1 redeemed all of its outstanding 3¼ percent Sinking Fund Debentures in the amount of $4,400,000.

The company's capital now consists solely of 2,338,305 shares of common stock of the par value of $1.66⅔ a share.

Great Lakes Paper Votes Dividends

NEW YORK—Great Lakes Paper Co., Ltd., has voted an initial dividend of 25 cents and an extra of 15 cents on the common, both payable November 15 to stock of record October 15. The company declined to make any statement a this time on future dividend policy.

Pulp Figures Large In Trade Agreements

WASHINGTON—Paper and pulp figure largely in trade agreements between European countries recently negotiated, it is indicated in the summaries of these agreements being reported to this government.

Recent trade agreements of Norway, for instance, require rather large shipments of newsprint to Denmark and Belgium, respectively, while under the terms of a recently renewed Swedish agreement with Spain, Swedish exports to that country for the 12 months that will end in February, 1948, are expected to include approximately 47,000 short tons of paper and pulp.

The clearing agreement between Sweden and Greece, effective until March, next year, provides that Greek importers will purchase, among other commodities, paper valued at 300,000 Swedish crowns. Cellulose and paper of all kinds are to be furnished by Norway in the year ending next June, under a Swiss-Norwegian pact that became effective last July, for which Swiss goods will be taken in exchange.

Poland will export newsprint to France under a recent Polish-French agreement; an economic arrangement between Poland and Czechoslovakia calls for shipment of sulphite cellulose to Poland from Czechoslovakia during the first year of the treaty, which became effective last July.

A recent agreement between Bulgaria and the Soviet includes cellulose and paper to be shipped into Bulgaria from Russia beginning with 1947.

Sweden is furnishing the entire requirements of the Portuguese textile industry for pulp used in manufacture of artificial fibers, where formerly

(Continued on page 20)

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending October 18, 1947

STOCKS

	High	Low	Last
A. P. W.	5⅝	5⅛	5⅝
Armstrong Cork Co.	52½	51	52⅛
Armstrong Cork Co., pf.	105	102¾	102¾
Celotex Corp.	30⅛	29	29
Celotex Corp., pf.	20¾	20½	20¾
Certain-Teed Products Corp.	19⅜	18⅜	18¾
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	25⅜	24⅛	25⅛
Champion Paper & Fibre Co., pf.	108	105⅜	105⅜
Congoleum Nairn Co.	31⅛	29¾	30⅞
Container Corp. of America	45¾	44¼	44¼
Container Corp. of America, pf.	99	98¾	99
Crown Zellerbach Co.	34⅞	33	34⅜
Crown Zellerbach Co., pf. 4.20	104	101	101
Crown Zellerbach Co., 4 pf. 4	130½	123¾	129
Dixie Cup Co.	40¼	39	40
Dixie Cup Co., A	54½	53¼	53¼
Flintkote Co.	39½	38⅜	39
Flintkote Co., pf.	107	106	106
Robert Gair	10⅜	10	10¼
Robert Gair, pf.	20	19½	19½
International Paper Co.	58¼	56⅜	58½
International Paper Co., pf.	101½	101½	101½
Johns-Manville Corp.	46½	44	45¾
Johns-Manville Corp., pf.	125¼	125⅛	125¼
Kimberly-Clark Corp.	24¾	24	24¼
Kimberly-Clark Corp., pf.	110	108½	109
Mac Andrews & Forbes	37½	37½	37½
Mac Andrews & Forbes, pf.	....	....	....
Marathon Corp.	25⅜	22¾	25⅜
Mead Corp.	22⅝	22½	22½
Mead Corp., pf. 4¼	94½	94⅜	94½
Mead Corp., pf. 2	49	48¾	49
National Container Corp.	15½	14⅞	15¼
Paraffine Companies, Inc.	73	72½	73
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	30¼	28⅞	29½
Rayonier, Inc., pf.	37½	36¼	36½
Ruberoid Co.	68	63	68
St. Regis Paper Co.	11⅝	11⅜	11⅜
St. Regis Paper Co., pf.	93	93	93
Scott Paper Co.	46	45¾	46
Scott Paper Co., pf.	102	99½	99½
Sutherland Paper Co.	42⅝	41½	42⅜
Union Bag & Paper Corp.	37⅜	36⅛	36½
United Paperboard Co.	17⅜	16⅞	17⅛
U. S. Gypsum Co.	105	103	105
U. S. Gypsum Co., pf.	185	182	182
West Virginia Pulp & Paper Co.	47	45½	45¾
West Virginia Pulp & Paper Co., pf.	111	111	111

BONDS

Celotex Corp., 3½s '60	102¾	102¾	102¾
Certain-Teed Products Corp., 5⅛s '53	....	....	....
Champion Paper & Fibre Co., 3s '65	....	....	....
Mead Corp., 3s '68	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending October 18, 1947

STOCKS

	High	Low	Last
Great Northern Paper Co.	46	45	46
Taggart Corp.	10⅛	10⅜	10⅜

BONDS

American Writing Paper Co., 6s '61	102¼	102¼	102¼

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CUSTOM-BUILT MACHINES FOR PAPER MAKERS

AUSTRALIAN NOTES

PERTH, Western Australia — A reduction of from 25 percent to 10 percent on many items in the Sales Tax Schedule is announced by the Federal Treasurer (Mr. Chifley). Items covered include a large range of paper lines, including advertising and other printed matter (programs, guides, souvenirs, catalogues, menus, albums, pocket and address books, calendars, view cards, business cards, paper handkerchiefs, cleansing tissues, confetti, streamers, paper party novelties, price cards, advertising display units, photographic paper and photographic mounts).

It is officially announced that the South Australian government is planning an eventual annual production of 300,000,000 super feet of timber within 28 years, and of this quantity 30,000,000 super feet will be used for pulping purposes.

Total imports of newsprint into Australia during the month of June amounted to 17,555 tons, compared with 16,033 tons of May, and the 14,203 tons for June of last year, Majority came from Canada, with 2,593 tons from Newfoundland.

June importations of other printing papers included the following: Imitation art, 39 tons (U.K. 34, Italy 4, Norway 1); other coated printing paper, 46 tons (U.K. 27, Canada 16, Norway 3); glazed imitation parchment, 37 tons (Norway 20, Finland 10, U.K. 7); lithographic, machine glazed or one side calendered, 28 tons (Canada 19, Norway 8, U.K. 1); offset embossed, 10 tons (Canada 5, Norway 5); poster, 40 tons (Finland 24, U.K. 16); and other printing papers, 500 tons (Canada 202, Finland 138, Norway 115, Sweden 20, U.S.A. 15 and U.K. 10).

Australian Paper Manufacturers Ltd. report a net profit of 269,889 pounds ($1,295,467 at par) for the year ended June 30, 1947. The directors, in a preliminary statement, say that they are unable to satisfy demands, and plant extensions are being rapidly pressed ahead. Company has now decided to establish a mill at Brisbane at an initial cost of some $3,750,000 (nominal capital is $33,600,000) and it is intended to erect a number of homes to house employees.

An innovation in leading Australian hotels of late is the installation of hygienic paper towel dispensers. Popularity of these, it is certain, will lead to a far wider use and application.

The Western Australian Government Statistician reports that during the nine months ended March 31, 1947, imports into that state of pulp, paper and board were valued at $2,722,017, of which $1,418,832 came from overseas; and imports of paper manufactures and stationery were valued at $1,871,693, of which $532,923 came from overseas.

It is officially revealed that during the year ended June 30, 1945, materials used in Australian papermaking and pulp mills included: Wood, 260,552 tons; straw, 6,826 tons; old or waste paper, 37,345 tons; limestone, 12,782 tons; lime, 2,158 tons; soda ash, 472 tons; and caustic soda, 287,560 pounds.

Sulphate, mechanical and other wood pulp totaling 79,775 tons was produced. Pulp used in paper making factories totaled 116,727 tons, articles produced including: Blotting, duplicating, printing, writing and wrapping paper, 18,933 tons; kraft and other wrapping, 45,391 tons; other paper materials, 10,443 tons; strawboard, 5,316 tons; and other boards, 65,540 tons.

A fire recently broke out in a stack of 1,000 tons of paper at the Sydney works of the Australian Paper Manufacturers Ltd., but it was brought under control by the local fire brigade before much damage could be done. Stack, fortunately, was ready for use for pulping. One employee engaged in fighting the outbreak fell into the burning stack but was rescued uninjured.

Brown Company Affiliate Producing for Chinese Govt.

NORTH ADAMS, Mass. — Although officials of the company declined official confirmation, it is understood that the Upper Mill Trust, an affiliate of the L. L. Brown Paper Company of Adams is devoting virtually its entire production to the manufacture of paper to be used by the Chinese government for its currency.

The Upper Mill Trust operates a plant in Adams and for some time has been engaged in filling orders placed by the Chinese nationalist government through its agents in this country. Since inflation has fastened its grip on China vast quantities of paper money are needed for the simplest transaction and the Adams mill is benefiting from this collapse of the Chinese economic structure.

Neenah Mills Stage Drive For Activities Association

NEENAH, Wis.—A membership drive is being conducted in the Neenah mills by the Kimberly-Clark Activities Association. Following these, of two weeks' duration, Badger-Globe, Lakeview and main office boards will elect officers and representatives to the central board. The inauguration dinner for incoming and outgoing board members will be held November 11, when officers of the central board will be elected.

All KCA units are being consulted in order to determine interest in the proposed formation of an a cappela chorus.

New Zealand Is Seen As Potential Market

WASHINGTON—Signs of a potential market in New Zealand for United States paper and paper products, at least until production in other possible supplying countries becomes normal again, are seen in recent reports to the Department of Commerce from American official sources in that country.

At present, it was pointed out, New Zealand's regular sources of paper imports, which were largely Canadian during the war years, are unable to fulfill New Zealand's requirements. Accordingly, officials of the latter government have indicated they would consider import licenses for all sources, on evidence that supplies were available.

These requirements seem to be considerably varied. It is reported for instance that New Zealand's Agriculture Department and Dairy Board are not entirely satisfied with some of the paperboard containers which have been, and are being used for wrapping butter; some have been described as not sufficiently durable, and others, too expensive.

It is suggested in the reports that if United States manufacturers have developed a durable, relatively inexpensive paperboard container suitable for shipping butter, it will probably find a ready market in New Zealand.

Owing to the war-time shortage of tinplate, many manufactured articles in the country came to be packaged in paper cartons. Government officials and manufacturers there were said to believe that many articles including cigarettes, tobacco, baking powder, syrup, custard powders etc., will continue to be packed in paper containers, even after tinplate again becomes available.

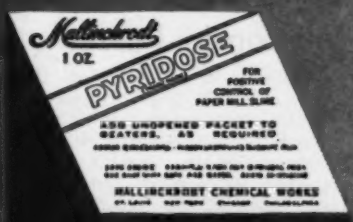
Wrapping bread was discontinued as a war conservation measure. Discussions have taken place regarding the re-institution of this practice, possibly this year or by 1948. It was not indicated if the step had been taken yet.

Owing to the extensive government housing and public works program, the output of cement and plast was stimulated, which in turn increased the demand for multi-wall shipping sacks. There was a shortage of such containers last year, and it is reported, inquiries have been made in the United States regarding available supplies.

The New Zealand market for paper from the United States has never been large, and under present import restrictions, licenses for goods from the United States are granted only where total requirements cannot be met from domestic output, or from Sterling areas. Despite the indications noted above that imports from this country might get more favorable consideration, no official change in tariff or import control regulations has taken place.

However, it was stated that all kinds

(Continued on page 22)



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Newsprint Use Soars As Stocks Dwindle

NEW YORK — Daily newspapers reporting to the American Newspaper Publishers Association had 39 days' supply of newsprint on hand and in transit at the end of September 1947. This represents a decrease of 3 days' supply compared with stocks on hand at the end of August 1947. These stocks of 39 days at the end of September 1947 compare with 34 days at the end of September 1946; 44 days at the end of September 1945 and 49 days at the end of September 1941.

Daily newspapers reporting to the ANPA consumed 299,807 tons of newsprint in September 1947 compared with 265,583 tons in September 1946 and 239,098 tons in September 1941. This was an increase in September 1947 over September 1946 of 12.9 percent and an increase over September 1941 of 25.4 percent.

The total estimated newsprint consumption in the United States for September 1947 was 410,695 tons which includes all kinds of uses of newsprint. For the first nine months in 1947 it is estimated to be 3,514,033 tons. During the first nine months of 1947 the reporting newspapers used 2,565,244 tons of newsprint, an increase of 13.6 percent over the first nine months of 1946 and an increase of 19.5 percent over the first nine months of 1941.

Newsprint Shares React Favorably

(Continued from page 16)

Toronto, is the attitude of a large insurance company which last week purchased bonds of a "paper" company although for some time it has refused to consider such issues. No one, of course, is overlooking the fact that the history of the pulp and paper stocks indicates that they are very volatile and might react unfavorably in the event of bad news.

In the meantime, International Paper Co.'s announcement in the United States last week of its $25 million expansion program, no doubt, also had its effect on general sentiment towards the paper stocks. It is noted that the new program will, when completed, bring the company's total kraft and board production close to two million tons annually by 1949, according to some estimates.

International also stated that it now has only $5 millions 2 percent unsecured notes still outstanding, having paid off $5 millions on Sept. 30. Of the outstanding balance, $434,545 of the notes mature Dec. 31, 1947. Payment of these notes brings the company closer to its stated objective of having no interest-bearing debt. It is also noted that additional capacity will not be obtained by building new mills, but by changes in existing mills. When the announced program has been completed the increase in kraft capacity will raise the company's potential output to roughly 5,855 tons daily or 1.9 million tons a year on the basis of 335 days. This, it is expected, will bring the company's kraft production into closer balance with its output of other items, such as groundwood specialties, book and bond paper products (excluding production of Canadian International Paper). The company's capacity for these items is reported to be approximately 6,300 tons daily. Practically all of the company's present kraft machines can produce either paper or kraft board.

Completion of the new $450,000 multiwall paper bag plant at Vancouver, B. C., for the St. Regis Paper Co. marks another milestone in the long-range plans for plant expansion and modernization of the Canadian company, according to Vice-president Thomas H. Cosford. The new plant is said to have an annual capacity three times that of the older Vancouver plant.

What effect, if any, the Toronto conference will have on questions of newsprint supply and price is a matter for conjecture. Airing of the price situation is likely to help both U.S. publishers and Canadian manufacturers it is suggested. Although manufacturers did not appear prepared to discuss prices, it is likely that a clear understanding of the United States position will go a long way toward influencing future pricing policies.

The question of price was introduced into the conference by George H. Mead, chairman of the board of G. H. Mead & Co., Dayton, Ohio. As a conference observer he made what was perhaps the strongest statement of the entire conference when he stated that "publishers of the United States should ask newsprint manufacturers what they think is a proper and fair price and should say, "whatever you ask we will be glad to pay." He went on to say that publishers should want the newsprint industry to be as profitable as other segments of the economy and that the price of newsprint must increase, for the benefit of consumers as well as producers.

Probably the most important observation, from the United States publishers' standpoint, arising out of the data submitted, is that while estimated Canadian production next year will increase by 123,000 tons over 1947, there will also be a discrepancy of 245,000 tons between estimated maximum United States newsprint demand and actual consumption. It was brought out that the increase in freight rates requested by United States railroads would represent additional costs of $3 a ton. Another point stressed at the conference was that the newsprint shortage is causing the greatest irritation to the small publishers and that it is likely to be this group which will press Congress for action.

Low Water Threatens Wisconsin Power

WAUSAU, Wis. — Unless there is heavy rainfall before December 1, Wisconsin river paper mills and utilities will have to depend on steam for power until the situation has been remedied. Reservoirs on the upper river were at 23.36 percent of capacity on October 12, and the Wisconsin Valley Improvement Company predicted that, barring rain or melting snows, they would be depleted by December 1.

With coal at the highest price in history of Wisconsin river mills, more than $1 per ton higher than last year, generation of electricity would cost considerably more than in normal years.

Total reserves in the upper reservoirs on October 12 were 3,286 million cubic feet. Including the Eau Pleine reservoir, the total reserves were 5,668,000,000 cubic feet, or slightly more than a third of the reserves on the same date in 1942, a high precipitation year.

In 1946, total reserves on October 12 were 10,546 million cubic feet, while on the same date in 1945 they were 12,785 million cubic feet. The Eau Pleine reservoir, about half full, contained 2,382 million cubic feet on October 12, but these reserves are available only to hydro-electric power plants south of the Marathon-Portage county line.

Pulp Figures Large In Trade Agreement

(Continued from page 16)

Sweden and Finland supplied nearly equal quantities.

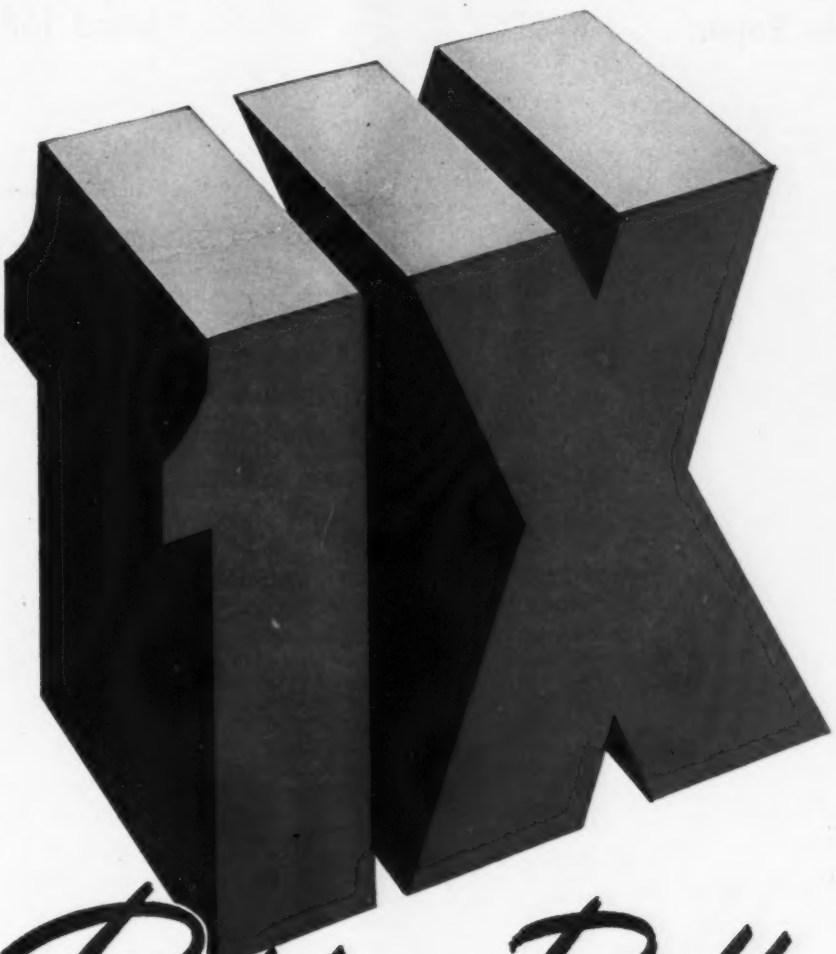
As to recovery of the producing industries abroad, some reports have been received lately, including one on a paper mill at Masstrict, Holland, which was said to have operated at full capacity all during the first half of this year, using imported wood pulp, and its entire production had been exported.

This mill has an annual capacity of 13,200 tons, mostly fine quality white and colored writing paper, printing, ledger, drawing, carbon paper and other specialties.

The Finnish industry was expected to show a drop in September, because of limited electric power under government curtailments, and the pulp industry there was already working at only about a fifth of capacity, it is reported.

Nibroc Division Holds Sales Convention

NEW YORK—Brown Company, Nibroc towel sales division, held a four-day meeting at the Roosevelt Hotel this week, Tuesday through Friday. The sales force from all over the country attended as well as representatives of Brown Corporation, Canadian subsidiary of Brown Company.



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Stowe-Woodward Rolls are made on the West Coast by Huntington Rubber Mills, Inc., Seattle, Washington

Wage Incentive Plan At Ryegate Paper

EAST RYEGATE, Vt. — The Ryegate Paper Company has put into effect a Wage Incentive Plan which will be paid on a weekly basis starting at once. The plan offers a bonus based on average daily production. It is supplementary to the regular schedule of wages which were negotiated to become effective last July 7.

All employees who are on the regular weekly payroll will share in the bonus. The bonus is figured and paid each week on the No. 1 saleable paper produced during that period. There is a penalty on any paper that may later be rejected by customers on account of sub-standard quality or mechanical defects. The bonus is figured as a percentage of total earnings including over-time during the period involved. The company feels that the plan as announced is simple, equitable and applicable to the problems of the Ryegate Paper Company.

By this plan, the employees will benefit more currently and more directly on the amount of:

1. Increase in rate of production.
2. Reduction in lost time for the repairs and clean ups.
3. Improvement in quality.
4. Elimination of off-standard paper and causes for rejections.

New Zealand is Seen As Potential Market

(Continued from page 18)

of paper were in short supply during 1946, and so far as can be learned, no proposals have been made for expansion of existing paper manufacturing capacity, which has always used imported chemical pulp.

Paper consumption is expected to increase in that country in the next two years, it was said, chiefly for industrial and commercial purposes. When present restrictive factors hampering the many new industries and plants launched in New Zealand in recent years are removed, it was believed there would be a corresponding gain in paper consumption, particularly paperboard containers, wrapping paper and paper bags.

Owing to restrictions and war-time shortages, it was pointed out that requirement figures are not accurately indicative of demand. Thus total paper requirements under voluntary restriction in 1946, are not greatly changed in estimates for 1947 and 1948. These show requirements for 1946, 1947 and 1948, respectively, as follows: pulp, 20,800 long tons, for each of these years; total paper, 52,000, up to 57,100; paperboard, 23,000 up to 25,200; building and insulation board, 25,000,000 square feet each year.

Of paper requirements, newsprint increases from 27,000 tons in 1946 to 36,000 this year, and 37,000 next; there is little change in the requirements of other papers, and in the case of pulp, the requirements are divided, 10,800 for chemical, approximately 56 percent unbleached sulphate, and 10,000 tons groundwood, which is domestically produced.

The 1946 domestic production, against estimated requirements that year, showed the following, respectively: groundwood pulp, 10,000 long tons, requirements, ditto; paperboard, 13,000 tons against 23,000; coarse papers, 6,950 tons against 10,000; tissue, 900 against 1500; building and insulation boards, 30,000,000 square feet against 25,000,000.

Pre-war, the United Kingdom and Canada were ranking suppliers, with this country a bad third; Canada assumed the leading position in the war period, but recently, it was said, Canadian mills have tended to resume their pre-war trade pattern, and the source of present imports is largely governed by availability.

Frank Smith Sails to Study European Conditions

NEW YORK—Frank W. Smith, vice-president of Bulkley, Dunton Paper Company, S. A., sailed last week on the Queen Elizabeth for an extended trip in the Scandinavian countries and Western Europe. Mr. Smith's itinerary includes visits to Sweden, Norway, Finland, the Netherlands, Belgium, France and England.

The primary purpose of his trip is to gain first-hand knowledge of the present condition and future outlook of the European pulp and paper industry and its relation to the world market. Mr. Smith will call on the organization's European representatives which are part of the worldwide network of Bulkley, Dunton's 59 offices and field representatives in the United States, Europe, Latin America, the Near East and Asia.

Hercules Earnings Are Nearly Doubled

WILMINGTON, Del.—Hercules Powder Company reported for the nine months ended September 30, 1947, earnings of $10,057,668. The earnings are equal, after payment of preferred dividends, to $3.69 a share on 2,633,420 shares of common stock outstanding.

The earnings for the first nine months of 1946 were $5,631,636, equal to $2.01 a share on the same number of shares of common stock.

For the third quarter of 1947, earnings were $2,744,768, equal after preferred dividends to $1 a share on the common stock. For the third quarter of 1946, earnings were $2,001,751, equal after preferred dividends to .71 cents a share.

Sales for the nine months' period were $98,969,694, as compared with $72,453,609 in the corresponding 1946 period.

Scott Bowling League Opens 16th Season

PHILADELPHIA—The Men's Bowling League of Scott Paper Company has officially opened its 16th season recently at the Armory alleys. On hand to welcome the large aggregation of keglers last week was Vice-president F.W. Plowman who reviewed the success of the league through the years. Mr. Plowman reminded those in attendance of how privileged we are in this country with freedom of action, the opportunity of engaging in athletic competition and the company's pride in the performance of the bowling league.

Controller William Carney also greeted the league, paying tribute to the men who had built the league to its present position and told bowlers that this sport was as much a part of Scott Paper Company as Scot Tissue itself. "The league has been the outstanding social activity of the company for many years," said Mr. Carney, "and it provides a grand time and good fellowship."

League president, Cliff Furhman presided at the opening of each league. He introduced the guest speakers, complimented keglers on past records and assured them that the current group of officers would do everything possible in working toward a successful 1947-48 season.

Proposes Revision of Trade Practice Act

WASHINGTON — The draft of a proposed new Federal Trade Practice Act has been presented to the nation's legal profession for consideration, by Federal Trade Commissioner Lowell B. Mason.

Under the Act, the Secretary of Commerce, or the Federal Trade Commission, could independently report on the need of a trade practice conference, or overhauling of existing practices, or they could act after representations from the industry concerned. This report would go to the Attorney General. The latter would have 30 days to approve a motion for such action. Failing after 30 days to certify to the Federal Trade Commission that action was warranted, the matter would be dropped.

If no such adverse action were taken by the Attorney General, however, the Federal Trade Commission would proceed with an investigation of the trade practices of the industry involved. It could then, if deemed advisable, order a trade practice conference, the rules and procedure for which is set forth in the proposed law. This provides for hearings, effective dates of any practices approved, and the terms by which individual concerns became party to the agreement.

The proposed law also provides for amendment of trade practice agreements in an industry, and for anti-trust exemptions under specified conditions, for adhering to any agreement.

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Whether you use the "Shear Cut" or "Score Cut" method, Simonds has the right type of Circular Cutter to give you top performance. These cutters are made of special electric steel from Simonds' own steel mills, to assure greatest strength, keenest edge, and longest cutting life. Ask the nearest Simonds office to recommend the right Circular Cutter for *you*.

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Trayer Describes Need For Research Fund

MADISON, Wis. — The Forest Products division of the Agriculture department at Washington, D. C., could use "effectively" up to $20,000 more for research to develop new sources of newsprint, George W. Trayer, chief of the division, wrote to Senator Alexander Wiley last week. Trayer said that he doubts "it would be wise to make a large increase in our appropriation for newsprint research alone because it would be difficult to expend it wisely and much greater results would be expected than we could hope to produce in a short time.

"It is our feeling that if $10,000 or $20,000 were made available for stepping up our research on newsprint we could effectively use it on how to produce newsprint from the relatively plentiful woods that are now not much used. We could not promise, however, that this would soon result in the production of more newsprint, for the simple reason that production requires more mills as much as it requires more research."

Trayer was replying to Wiley's request for information on whether more money for the United States Forest Products Laboratory in this city would open the way to a bigger newsprint supply. Congress appropriated $1,250,000 for all operations of the laboratory during the fiscal year which began July 1.

Trayer said that "from the standpoint of getting newsprint quickly, the need is more for mills than for more research."

Trayer said the division's Wisconsin laboratory and other projects have developed a considerable amount of technical information on converting some of the less desirable but more available species into newsprint."

This is particularly true in birch and aspen in the north and some southern hardwoods, he said, adding:

"The problem of obtaining a supply of newsprint from these specials appears to be largely concerned with working out details of application with concerns interested either in building new newsprint mills, or in converting mills now making other grades into newsprint. It must be pointed out, however, that the trend has been the other way, that is, to convert mills in the United States from newsprint to more profitable paper products."

Millprint Considers Plant at Kaukauna

KAUKAUNA, Wis. — An informal meeting of the common council, scheduled to be held October 14, with representatives of Millprint, Inc., Milwaukee, and with a group of Kaukauna businessmen, both of which are considering Kaukauna as a possible site for industrial plants, was postponed at the request of Millprint.

Millprint is considering building a branch plant devoted to the printing of meat and cheese packaging materials. The Kaukauna group is planning a plant dealing in contracting metal working and refrigeration servicing.

William Heller, vice-president of Millprint, could not get to Kaukauna for the scheduled meeting, he said in a letter to Mayor Joseph F. Bayorgeon, and asked that the meeting be held at a later date, which has not been set.

Nekoosa Men Named Tour Supervisors

PORT EDWARDS, Wis.—Two veteran employees of the Nekoosa-Edwards Paper Company, John Kirst and Ben Kappel, have been advanced to positions as tour supervisors. Kirst's jurisdiction will be over the paper machines in the company's Nekoosa mill and Kappel will serve in the same capacity at the Port Edwards paper mill.

John Kirst joined the Nepco organization November 8, 1919, as a fourth hand. He advanced rapidly through the ranks of third hand and backtender. In 1923 he was promoted to machine tender in which capacity he has served up to the time of his recent appointment as tour supervisor. He is married and the father of two boys, one of whom, Joh, Jr., is also making paper for Nekoosa-Edwards. The Kirsts live in Nekoosa.

Ben Kappel is also a veteran of many years service with Nekoosa-Edwards. He started working for the company in 1923 in the wet room of the Port Edwards sulphite mill. Later the same year he became a backtender in the Port Edwards paper mill and, in June, 1927, he was advanced to machine tender. He served as machine tender from 1927 until his appointment as tour supervisor September 9. Kappel is married and resides in Port Edwards.

North Country Alerted To Danger of Fire

MADISON, Wis. — Scattered forest fires were reported late last week in northern Wisconsin and upper Michigan. They were under control, but Area Ranger Virgil A. Moon of Mercer warned that conditions were ripe for an outbreak of serious conflagrations. This is due largely to lack of rainfall which has resulted in extremely dry conditions.

The most serious fire raged in Iron County, Wisconsin, near Iron Belt, where 2,600 acres were burning. About 300 men were fighting the blaze which jumped fire lanes. Aerial observation established that the fire was under control late in the week. Other fires were reported near Hurley, near Bergland, Mich., Vesper, Wis., south of Ironwood and in the vicinity of Wakefield.

Taylor Talks Trees To Wausau Kiwanis

WAUSAU, Wis. — Wisconsin's dependence on tree life for industrial, recreational and agricultural welfare was discussed before the Wausau Kiwanis Club on October 6 by M. N. Taylor, Merrill, Wis., executive director of Trees for Tomorrow, Inc., who also showed colorful views of northern Wisconsin scenery and woodlands.

Taylor said that in 1870, the state had 20,000,000 acres in pine, hemlock and hardwood, and that in 1944 only 40,000 acres remained of this potential wealth. He emphasized that in addition to providing employment for thousands in paper mills and wood industries, tree life provides cover for game and wildlife, and that it aids soil conservation.

The speaker showed a map of Wisconsin including a large area in northern Wisconsin which it is hoped to have reforested by 1970.

Included in the pictures were scenes of the Eagle River Conservation camp sponsored by Trees for Tomorrow. Scholarship awards and other work carried on by the organization were also portrayed.

Another subsidiary, Nevada Silica Sand, Inc., has completed the building of a new silica sand washing and refining plant at Overton, Nevada, to provide the two glass container plants with a supply of high-quality sand. It is estimated that the sand deposits which the company owns near Overton are sufficient to meet requirements of both the Antioch and Los Angeles operations for many decades.

To consolidate the operations of several motor truck fleets operated by the Vernon, South Gate, and Sunset mills and converting plants in southern California, Fibreboard in 1945 organized Container Transport Co. which now operates thirty-eight pieces of modern rolling stock and handles in excess of 120,000 tons annually.

Another wholly-owned subsidiary, Independent Paper Stock Company, operates plants throughout the West to provide facilities for collecting, sorting, and cleaning paper stock for Fibreboard's shipping case and carton requirements. The Precision Electrotype Company, also a wholly-owned subsidiary, was organized several years ago to manufacture the printing plates required by the paperboard converting plants.

Kimberly-Clark Engineers Will Hear of Long Lac Project

NEENAH, Wis.—The Kimberly-Clark Engineers club will hold its first formal fall dinner meeting October 29 at the Appleton American Legion clubhouse. C. W. Nelson, assistant vice-president in charge of the corporation's expansion program, will discuss the Long Lac Project to date.

Outstanding Ability

. . . to solve your lubrication problems

Administration building of Sinclair's new Research Center at Harvey, Ill. E. W. Isom, at right, Vice President in charge of Research, was recently awarded the famed Stevens Institute Medal for the most outstanding contribution to petroleum engineering.

Sinclair is completing a new $4,000,000 petroleum research and development laboratory at Harvey, Ill. This great research center — to be the most modern and best equipped in the industry — climaxes more than 30 years of consistent achievement in the development of superior products for the solution of your most difficult lubrication problems.

The outstanding skill and vast technical knowledge of recognized experts in the petroleum field will continue to serve you at Harvey as they have for so many years at East Chicago.

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Midwest Presses For More Paper

INDIANAPOLIS, Ind. — The general situation in the paper market here remained little changed last week. Continued demand for virtually all lines was apparent and supplies in some instances were somewhat larger. However, the supply continued to lag behind orders and manufacturers and jobbers are unable to cut very deeply into the backlog of orders now on file. Wood pulp was very scarce and there is no indication that the situation will improve in the immediate future. The trade feels that after the turn of the year there will be some more improvement in the supplies available. This is entirely problematical, but the feeling is there.

With the holiday season approaching, the wholesale trade is much concerned about the kraft situation. Kraft seems to be the most hard to get item in the local list. Demand for wrapping paper and bags has continued strong throughout the entire year and the holiday trade bids fair to show a volume increase over last year. Box factories are receiving more strictly holiday business than they possibly can fill and business is being turned down.

Demand for building paper and roofing has continued strong during the entire fall, largely due to exceptionally good weather. The building volume this year will be far ahead of last year and there will be no decline in demand for these items until severe weather halts construction.

Tissues continued in good demand last week with supplies short of demand. However, the general situation is much better than it was during the early summer. All items in the list seemed to be in demand. In spite of the season, there continued to be a good demand for paper plates and supplies were scarce and prices strong.

Waste paper demand continued strong here with collections none too good. Prices on better grades of waste paper were very strong. Rag demand also continued good, with emphasis on the better grades. However, some roofing rags were being asked for.

Marinette Trip Celebrates New Production Records

MARINETTE, Wis.—Marinette Paper Company sent 26 papermakers, beatermen and paper mill supervisors to Green Bay, Wis., Sunday, October 12, and the Green Bay Packers - Chicago Cardinals football game. The outing was arranged to celebrate the breaking of three more production records by these men who operate the No. 3 paper machine and its auxiliary equipment.

So far this year, these crews have broken eight daily, weekly and monthly marks. Edward J. Walk, paper mill superintendent, was in charge of the trip.

Menasha Safety Council Resumes Dinner Meetings

MENASHA, Wis. — The Twin City Safety Council resumed monthly dinner meetings October 15 at Germania hall. Clarence Elmgren, personnel director of Gilbert Paper Company, is president this year, and Carl Christensen, director of the Neenah Vocational School, is secretary.

The program committee has Al Johnson, safety coordinator of Kimberly-Clark Corporation, as chairman. The program of the first meeting was divided into two parts. The first of these, "Safety in Methods," was given by Warren Whitlinger of the Kimberly-Clark industrial engineering department, and the second, "Safety in Training," by Norman Jansen of the Kimberly-Clark industrial relations department.

Lehmuth Named Plant Manager By the Moore & White Co.

PHILADELPHIA — Henry Lehmuth, 3d, who made a notable record during the war as an industrial engineer, has been named plant manager for The Moore & White Company, manufacturer of paper-making machinery, by George Lear, president of the firm. Lehmuth takes his new post after six years as chief industrial engineer for the Philadelphia Division of the Bendix Aviation Corporation.

OBITUARY

Frank E. Donovan

BOSTON — Frank E. Donovan, 53, president of Specialty Converters, Inc., East Braintree, died at his residence, Pleasant Street, Norwell, October 15. Born in Turners Falls, he attended the University of Maine, class of 1919. He served as an officer in the Navy during World War I and as advisor to the War Production Board during World War II. Funeral services were held October 18 from his home, with a solemn high mass at the Church of the Holy Family, Rockland, Mass. His wife, Mrs. Doris E. Donovan, a daughter, Jean, 10; and a son, Frank, Jr., 12, are living.

Walter H. Bell

MANHASSET, L. I.—Walter H. Bell, of 225 Country Club Drive, president of Walter H. Bell, Inc., New York representative of the Mersey Paper Company of Liverpool, N. S., a newsprint firm, died late last month in North Country Community Hospital, Glen Cove, L. I., at the age of 76.

Born in Burlington, Iowa, Mr. Bell entered the brokerage business in Dayton, Ohio. Subsequently he was in the box-board business in Indiana, and later was with the old Spanish River Paper Company, Graham Paper Company, and Mead Paper Company.

Fete 3 Anniversaries Of Eastwood-Nealley

NEW YORK — Nearly two hundred industrial and civic neighbors and friends of the corporation gathered last Thursday evening at the Waldorf-Astoria to help the Eastwood-Nealley Corporation celebrate a group of anniversaries. Just a century ago John Eastwood had founded his business in Belleville, N. J., where it has grown to occupy five acres. Seventy years ago the Eastwood interests began their service to the paper industry, and fifty years ago Calvin Nealley, just out of the University of Maine, entered the paper business. All of these anniversaries were wrapped up in one celebration to which the company had bidden the imposing list of industrial and New Jersey notables who attended the function.

General charge of the program was in the hands of Harry G. Specht, vice-president of the corporation, who acted as toastmaster for the brief speaking program which followed the reception and dinner. He introduced first Dr. Arthur A. Hauck, president of the University of Maine, with which Nealley had been an active and prominent alumnus. Next speaker was Rep. Fred. A. Hartley, Jr., who represents the northern New Jersey area in the House of Representatives.

Both speakers, speaking from widely variant backgrounds and interests, paid high tribute to the present head of the corporation, pointing out that its energy and its efforts are typical of the industrial policies which have contributed so heavily to progress.

Marathon Develops New Wrapping for Kraft Cheese

TOULON, Ill.—A unique, new packaging method that eliminates cheesecloth, paraffin and rind has been developed after extensive research conducted in cooperation with several State universities and the Marathon Paper Company of Menasha, Wis., Kraft Foods Company reported with the opening of their new plant. Attaining a long-time goal of the cheese industry, the new wrapper permits top grade natural cheese to cure properly inside its own retail container. The new wrapper, Kraft believes, "has just about transformed the natural cheese-making industry."

Associated Industries Elects Hayes

WOODLAND, Me. — Harry L. Hayes, vice-president and general manager of the St. Croix Paper Company, was elected last week to a three-year term on the board of directors of the Associated Industries of Maine, a statewide industrial group.

Typical scene in magazine editorial office of the 1850's

Magazines for the Millions

America's first magazine was published in 1741. During the next century many were started, but only one, *Godey's Lady's Book*, attained a circulation of as much as 150,000.

Not until the discovery of the wood pulp process made paper plentiful did magazines bring to largely increasing numbers what Dr. James G. Holland, an early editor of *Scribner's*, called "the intellectual food of the people."

Today more than 700 magazines with a total circulation of more than 110 million copies carry culture and entertainment to the home, and their advertising pages stimulate low cost distribution of a huge volume of consumer goods. Thus magazines, made possible by plentiful paper, have helped to make the United States the best informed of all nations, with the highest standard of living in the world.

The dramatic story of paper is told in the sound-and-color film, "Paper — Pacemaker of Progress," and in a book under the same title. Both are presented by F. C. Huyck & Sons as a tribute to the Paper Industry. The book will be sent free upon request.

F. C. HUYCK & SONS • *Kenwood Mills* • ALBANY, NEW YORK

KENWOOD WOOL PRODUCTS

HUYCK *Felts*

IMPORTS

NEW YORK IMPORTS

WEEK ENDING OCTOBER 18, 1947

SUMMARY

Newsprint	20,484 rolls
Wrapping Paper	15 bls., 635 rolls
Coated Paper	50 cs.
Filter Paper	23 cs.
Wallpaper	5 cs.
Printing Paper	2 cs.
Paper Napkins	1 cs.
Gummed Paper	10 drums, 79 cs.
Paper Serviettes	1 crate
Photo Paper	162 cs.
Parchment Paper	12 cs.
Tracing Cloth	37 cs.
Miscellaneous Paper	1 ble., 36 rolls, 2 cs.

NEWSPRINT

R. A. Olsen, Donpaco, Donnacona, 371 rolls.

Journal Gazette Co. (Fort Wayne, Ind.), Westerdam, Rotterdam, 251 rolls.

Paper Clearing House, Inc., Abbedyk, Antwerp, 25 rolls.

N. Y. Journal American, Markland, Liverpool, N. S., 1142 rolls.

N. Y. Herald Tribune, Markland, Liverpool, N. S., 1762 rolls.

N. Y. World Telegram, Markland, Liverpool, N. S., 690 rolls.

Brooklyn Eagle, Markland, Liverpool, N. S., 735 rolls.

Richmond Newspapers, Inc., Markland, Liverpool, N. S., 1749 rolls.

Herald Statesman, Inc., Markland, Liverpool, N. S., 43 rolls.

Watchtower Bible & Tract Society, Frierfjord, Stavanger, 164 rolls.

Montmorency Paper Co., Rockliffe Park, Botwood, 2114 rolls; 1420 rolls (Alexandria, Va.).

Neo Gravure, Rockliffe Park, Botwood, 3 rolls.

(———), Mormacsea, Gdynia, 374 rolls.

Paper Clearing House, Inc., Notre Dame Victory, Antwerp, 247 rolls.

H. G. Craig Co., G.D.D., Donnacona, 338 rolls.

R. A. Olsen, Kermic, Donnacona, 378 rolls.

News Syndicate Co., Colabee, Baie Comeau, 7655 rolls.

Aqua Shipping Co., International No. 1, Donnacona, 301 rolls.

H. G. Craig Co., Newscarrier, Donnacona, 343 rolls.

R. A. Olsen, A.C.D., Donnacona, 379 rolls.

WRAPPING PAPER

The Borregaard Co., Inc., Mormachawk, Gothenburg, 51 rolls.

Public National Bank Trust Co., Drottningholm, Gothenburg, 201 rolls, 15 bls.

National City Bank, Drottningholm, Gothenburg, 217 rolls.

The Borregaard Co., Inc., Drottningholm, Gothenburg, 166 rolls.

COATED PAPER

F. P. Gaskell Co., American Importer, Glasgow, 50 cs. (for cigarette tipping).

FILTER PAPER

E. H. Sargent Co., Drottningholm, Gothenburg, 12 cs.

H. Reeve Angel & Co., Inc., Durango Victory, London, 11 cs.

WALLPAPER

Strands Swedish Gift Shop, Drottningholm, Gothenburg, 5 cs.

PRINTING PAPER

Stevens Nelson Paper Corp., Durango Victory, London, 2 cs.

PAPER NAPKINS

Richs, Inc., Fort Ticonderoga, Liverpool, 1 cs.

GUMMED PAPER

Palm Bros., Fort Ticonderoga, Liverpool, 12 cs.

B. F. Drakenfeld & Co., Fort Ticonderoga, Liverpool, 10 drums, 67 cs.

PAPER SERVIETTES

Bloomingdale Bros., Fort Ticonderoga, Liverpool, 1 crate.

PHOTO PAPER

Remington Rand, Inc., Durango Victory, London, 10 cs. (base).

(———), Durango Victory, London, 1 cs.

J. J. Gavin Co., Durango Victory, London, 3 cs. (unsensitized).

Lep Transport, Durango Victory, London, 148 cs. (base).

PARCHMENT PAPER

George Lippelgoes, Union Victory, Antwerp, 12 cs.

TRACING CLOTH

Keuffel & Esser Co., American Clipper, Manchester, 37 cs. (cotton).

MISCELLANEOUS PAPER

Stevens Nelson Paper Corp., Mormachawk, Gothenburg, 1 ble.

Paper Converting Machine Co., Drottningholm, Gothenburg, 2 cs.

Corn Exchange Bank Trust Co., Drottningholm, Gothenburg, 36 rolls.

RAGS, BAGGINGS, ETC.

R. Blank, Express, Port Said, 68 bls. white cotton rags.

Price & Pierce, Ltd., Markland, Liverpool, N. S., 207 bls. paper waste.

(———), American Importer, Glasgow, 38 bls. brown linenwaste, 88 bls. linen waste.

Riverside Mills, Union Victory, Antwerp, 236 bls. cotton waste.

(———), Exceller, Naples, 80 bls. rags.

E. J. Keller Co., Inc., Exceller, Naples, 199 bls. dark cotton roof rags.

Camden Fibre Mills, Louis McHenry Howe, Bombay, 250 bls. cotton waste.

National Bank Detroit, Louis McHenry Howe, Suez, 999 bls. camouflage burlap strips.

A. W. Fenton Co., Louis McHenry Howe, Naples, 140 bls. dark cotton rags.

New England Waste Co., Royal Prince, Santos, 343 bls. cotton waste pickers.

Manufacturers Trust Co., Exbrook, Genoa, 185 bls. old waste bagging.

(———), Exbrook, Alexandria, 104 bls. hessian tares, 80 bls. bagging, 82 bls. jute canvas cuttings.

J. Eisenberg, Tropero, Buenos Aires, 37 bls. woolen waste.

Continental Bank Trust Co., Halaula Victory, Venice, 239 bls. dark cotton rags.

New England Waste Co., Lambrook, Cochin, 85 bls. cotton waste.

OLD ROPE

(———), Express, Calcutta, 183 bls. old hemp rope cuttings.

CHINA CLAY

Eagle Pencil Co., Durango Victory, London, 3 bls.

CASEIN

American Cyanamid & Chemical Corp., Tropero, Buenos Aires, 1000 bags (ground lactic).

GLUESTOCK, ETC.

Milligan & Higgins, Cape Nome, Havana, 71 bls. dry fleshings.

Transatlantic Animal By-Products Corp., A. Mitchell Palmer, Fortaleza, 300 bags sheet bone glue.

John Gorvers, Marna Dan, Buenaventura, 129 bags hidecuttings.

Transatlantic Animal By-Products Corp., Royal Prince, Santos, 300 bags bone glue.

H. Remis, Santa Monica, Barranquilla, 90 bdls. gluestock.

WOODPULP

Thomson Paper Mills, Mormachawk, Gothenburg, 600 bls. prime bleached sulphite pulp.

Price & Pierce, Ltd., Markland, Liverpool, N. S., 2450 bls. unbleached sulphite pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 18, 1947

International Purchasing Co., Notre Dame Victory, Antwerp, 59 coils old manila rope.

Castle & Overton, Inc., Exbrook, Genoa, 196 bls. dark cotton rags.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 18, 1947

The Borregaard Co., Inc., Mormachawk, Gothenburg, 99 rolls wrapping paper, 508 bls. dry chemical pulp.

Philadelphia National Bank, Mormachawk, Gothenburg, 60 rolls paper.

Jay Madden Corp., Vretaholm, Kotka, 145 rolls newsprint.

H. Remis, Tropero, Montevideo, 18 bls. dry gluestock.

Tradesmans National Bank Trust Co., Durango Victory, London, 52 bls. old webbing.

We would like to help you find new and profitable uses for

AMERICAN ANODE *latices and mixes*

★

MANY seemingly impossible things have been done lately with American Anode latices and mixes. For example, high-altitude oxygen masks with intricate systems of ducts and metal inserts; meteorological balloons that are 5 feet in diameter uninflated, 28 feet inflated, that rise more than 20 miles into the air; amazingly complicated surgical catheters with 3 or more tubes, yet made in one piece.

American Anode latices and mixes are also used as coatings and impregnants for textiles and paper, and as adhesives in a wide variety of applications.

Most of these uses are the direct result of the work done by American Anode development men in our completely equipped development and research laboratory—men with the experience needed to permit us to offer you a *complete* research, design, engineering and production consultant service.

Don't assume that a product can't be made—or a problem solved—with latex until you've consulted with American Anode development men.

Latices and compounded mixes of GEON, HYCAR, Saran, neoprene, crude rubber and GR-S are available. For more information about these modern materials—*and proper methods of using them*—please write Department AD-6, American Anode Inc., 60 Cherry St., Akron, Ohio.

AMERICAN ANODE

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CRUDE AND AMERICAN RUBBER LATICES, WATER CEMENTS AND SUSPENSIONS

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, October 22, 1947.

In general the outlook for the paper and board industries for the next several years has been predicted as excellent by a good many students of affairs. Little change in the demand-supply situation is reported as a whole, although paper output for the week ended October 4 was at the highest level in months and October 11 only slightly behind — the increases representing added Fall capacity.

While dealers have been able to establish inventories in some lines of paper and paperboard products, the supply of others remains tight. No. 1 tissue is extremely so, with possibilities of an aggravated condition as the holiday season approaches. No. 2 tissue is easier. Toilet tissue is in short supply throughout the country, production for the first six months of 1947 being 2.4 percent below that of the like period of 1946. Towels, though more plentiful generally, are reported short in this area. Facial tissue registered a production gain for the first part of 1947 and is in good supply.

In the coarse paper field, kraft supply of all kinds is extremely tight with shortages on butchers' wrapping and other types of packaging papers where "grey market" prices are noted. New production multi-wall bags is reported but no increase in wrapping paper.

Board manufacturers are operating under terrific pressure to meet demand, concentrating on new design, new printing and the use of better resins. A new clay-coated board carton with four-colored lithograph finish for use with food products is being marketed.

Worldwise — Reports reach us that German processes for making paper and board from rye straw and esparto grass are described in British reports on papermaking industry in the British zone. . . . The Philippine Government will purchase equipment for a 30-ton paper mill as one of the first ventures in the industrialization of the islands. Paper consumption in the Philippines has increased considerably since the war, particularly newsprint; and it is planned eventually to make the islands self-sufficient in paper production, using the wastes of abaca or Manila hemp, maguey, cogon grass, rice husks, bamboo ramie and bagasse, the waste dried cane of the sugar industry and the vast areas of forest products which are available if the industry should expand for export purposes. . . . New Zealand newspapers, as an Aid-to-Britain measure, have volunteered a cut in their newsprint supplies of 32 percent of their 1948 allocations or 45 percent of their 1938 consumption. At the same time attention is being concentrated on government establishment of big paper and pulp manufacturing works in the forest reserves between Murupara and Kaingaroa in the North Island about 40 miles from Rotorua. The Rangitaki River will be dammed to provide electric power and adequate water supply, and a new township will be built for the thousands of employees whom the government plans to draw from immigration from the United Kingdom. In the area there are 300,000 acres of pine forests which have hardly been touched. Papermaking is planned as a great industry in the production of newsprint and paperboards.

Newsprint

Headlines are still held by the newsprint situation in Canada, its supply and price, et cetera; and a price rise of $5 to $10 a ton around January 1, 1948, is predicted. Producers indicate that it would be unreasonable to expand production if prices stand still in such a period of rising costs, citing freight-rate hikes, woods and labor costs in explanation. Newsprint manufacturers are trying to postpone rises believing it good business policy not to take advantage of American users while the demand is in excess of supply. Thus it is anticipated that there must be a slight rise in price but more available newsprint in 1948.

Waste Paper

Continued good weather favors collections. Folded news is coming in heavy volume, and large movements of waste of all kinds is reported, producing a temporary weakening of the market. Prices of old corrugated have eased a little as a result of the stacking up of new corrugated boxes. This is likely to be a temporary lull. No. 1 mixed is down $1 per cwt. Other prices are firm. Mills are still buying to replenish inventories.

Rags

The market is strong on new foreign cotton cuttings and old foreign rags. The United States Department of Commerce reports that the imports of rags for paper stocks totaled 7300 tons during the first half of 1947, compared with 8300 tons in the comparable period of 1946, and with 14,800 tons for the full year of 1946, contrasted to the last full peacetime year of 1938 when more than 40,000 tons were brought in from foreign markets. Light Silesias, light flannelettes, new white and fancy shirt cuttings and light prints have all but disappeared, and where available are listed as "nominal." Prices of dark cottons are shown as $2.20 to $2.60 per cwt., the Southern European representing one extreme and the Northern European the other.

Prevailing good weather throughout this section is keeping Fall collections steady. The demand is good for roofing rags. An advance on No. 2 grade is rumored. Market is generally strong on old rags and new cuttings.

Index

The index of general business activity for the week ended October 11 inclined to 143.0 from 140.8 in the preceding week compared with 132.5 for the corresponding week of 1946. Index of paperboard production rose to 168.7 from 160.3 in the preceding week, compared with 154.2 in the corresponding week of 1946.

Paper production for the week ended October 11 was estimated at 108.4 percent compared with 109.5 for the preceding week, with 105.9 for the corresponding week in 1946, with 96.2 for 1945, and with 92.9 for the corresponding week in 1944.

Paperboard production for the week ended October 11 was 102.0 percent of capacity, compared with 100.0 for the preceding week, with 99.0 for the corresponding week in 1946, with 97.0 for 1945, and with 96.0 percent for the corresponding week in 1944.

See Little Increase In Norway Shipments

WASHINGTON—Norway's exports of newsprint for the first five months this year amounted to 44,000 short tons, compared with 28,000 tons for the same months of 1946, with other countries obtaining the bulk of shipments through prices much higher than those prevailing in the United States, according to cabled advices to this government from American representatives abroad.

Only negligible shipments were reported to the United States either this year, or in 1946, and it was added, little improvement is seen for the remainder of 1947.

The largest share of postwar exports from Norway have gone to Argentina, China, Chile, Brazil, India and Egypt, it was said, at prices considerably higher than those in this country. Most of the remaining 1947 pulp and paper production for export has now been committed to foreign markets other than the United States, it was added, but in 1948, said the information, an increase in sales to this country is expected.

Service Ratings			
Type	Size	Pounds per square inch	
		Steam	Non-Shock Cold WOG
Screwed	¼"–2"	150	225
	2½"–4"	125	175
Flanged	1"–2"	125	200
	2½"–4"	125	175

Fig. 709 Saddle Style — Inside Screw — Bronze Mounted or All Iron

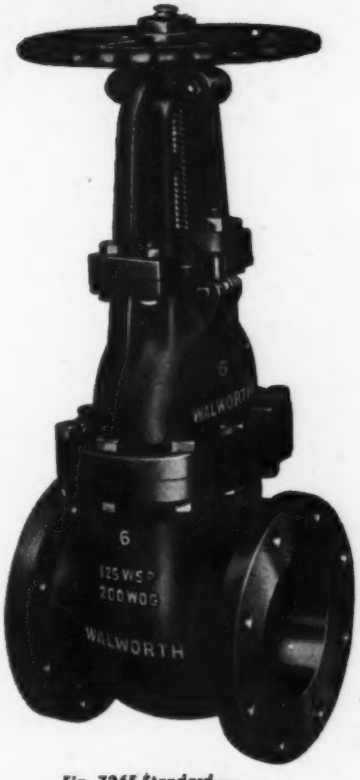

Fig. 726F Standard — Outside Screw and Yoke — Bronze Mounted or All Iron

Service Ratings			
Type	Size	Pounds per square inch	
		Steam	Non-Shock Cold WOG
Screwed or Flanged	2"–12"	125	200
	14"–16"	125	150
	16" and larger	*	150

* For steam service requiring valves 18" and larger we recommend the use of Walworth 150-Pound Cast Steel Valves.

Walworth

iron body wedge gate valves

...the last word in Dependability

Fig. 719 Standard — Non-Rising Stem — Bronze Mounted or All Iron

Service Ratings			
Type	Size	Pounds per square inch	
		Steam	Non-Shock Cold WOG
Screwed or Flanged	2"–12"	125	200
	14" and larger	125	150

Walworth Fig. 709 Saddle Gate Valves are recommended for lines carrying sludge, and fluids of high viscosity. They are easy to take apart, clean, and put together. They are available in either bronze mounted or all iron types, screwed or flanged ends. Two holes inside the bonnet of bronze mounted valves permit draining when the valves are open, thus eliminating the risk of damage to the valve due to freezing. All parts are designed for maximum service and strength.

Walworth Fig. 719 Standard Non-Rising Stem Valves are recommended for general service. The bronze mounted valves are furnished with bronze stems, seat rings, and disc faces. The all iron valves have nickel-plated steel stems, integral disc faces, and renewable screwed-in seat rings. Non-rising stems make them suitable for use where clearance is a factor. When the valves are open, the disc is clear of the fluid passageway.

Walworth Fig. 726F Standard OS&Y Valves are especially recommended for steam and services above atmospheric temperature. Their streamlined ports permit smooth, easy flow.

For further information about Walworth Iron Body Valves, as well as Walworth's *complete line* of valves, fittings, and flanges, see your nearby Walworth distributor, or write:

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valves and fittings

60 East 42nd Street, New York 17, N. Y.

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PRICES

With the elimination of price controls on paper, pulp, rags and other materials, the quotations given below once more become indicative of trends in an open market. At the moment they can be of little more, for, while some volume business still is being done under contract at the figures given below, fluctuations representing special conditions are too varied and too frequent to permit prices to be given as representing a wholly stabilized market.

Paper

(Delivered New York)

Standard News, per ton—

Roll, contract	$87.50	to	$90.00
Sheets	$109.00	"	—

Kraft—per cwt.—Carload Quantities

Zone A, Delivered
40 lb. base weight

Superstandard Wrapping	$7.00	to	—
No. 1 Wrapping	6.50	"	6.75
Standard Wrapping	6.00	"	6.25
Standard Bag	5.75	"	6.25

Tissues—Per Ream 24x36 (480) 10 lb. Zone 1.

Wh. No. 1 Frd.	$1.65	to	$1.72
Wh. No. 1 M. G.	1.65	"	1.72
Wh. No. 1½	1.48	"	—
Wh. No. 2	1.55	"	—
Kraft Anti-Tar	1.38½	"	—
Kraft Unbl.	1.85	"	—
Manila No. 2	1.62	"	—

Toilet—Per Case of 100 rolls—1 M Sheets.

Unbleached	$5.50	to	$6.40
Bleached	6.50	"	7.60

Paper Towels—Per Case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$4.85
Br. Sr. M'tif'd 10x12	3.45
Br. Jr. M'tif'd 9½x9¼	2.95
Br. Jr. Sgl. fold 10x10¼	3.10

Manila—per cwt.—C. l. f. a.

No. 1 Jute Tag	$13.80
Reg. Jute Manila	13.25
No. 1 Manila	9.75

Boards, per ton—

News	$92.50	"	—
Chip	90.00	"	—
Sgl. Mla. L1 Chip*	102.50	"	—
White Pat. Coated*	120.00	"	—
Kraft Liners 42 lb.	100.00	"	—
Binders Boards	126.00	"	—

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2 50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1: Rag Content Bonds and Ledgers—

White, Assorted Items
Bonds, per cwt.

	Carton	4 C't'n	Ton
100% Rag Ext. No. 1	$55.00	$50.80	$48.70
100% Rag	48.25	44.55	42.70
75% Rag	38.00	34.55	33.10
50% Rag	31.50	28.75	27.50
25% Rag	28.00	25.50	24.50

Ledgers, per cwt.

100% Rag Ext. No. 1	$54.25	$50.00	$48.00
100% Rag	$47.50	$43.90	$42.10
75% Rag	37.50	34.55	33.10
50% Rag	32.25	29.40	28.25
25% Rag	28.75	26.15	25.10

Sulphite Bonds and Ledgers—
White, Assorted Items
Bonds, per cwt.

No. 1	$19.25	$17.50	$17.00
No. 2	18.25	16.50	16.00
No. 4	17.50	16.00	15.25

Ledgers, per cwt

No. 1	$20.25	$18.35	$17.60
No. 2	19.25	17.50	16.80
No. 4	18.50	16.90	16.10

Free Sheet Book Papers—
White, Cased Paper

(Per cwt.)	Case	Ton
No. 1 Glossy Coated	$20.40	$19.55
No. 2 Glossy Coated	19.15	18.30
No. 3 Glossy Coated	18.40	17.60
(Per cwt.)	Case	Ton
No. 1 Antique (Watermarked)	$15.90	$15.15
No. 2 Offset	14.15 to 17.90	13.65 to 17.10
A Grade E. F.	14.90	14.25
A Grade S. & S. C.	15.40	14.65
B Grade E. F.	Nominal	
B Grade S. C.	Nominal	

Wood Pulp

Domestic mill prices delivered with former OPA freight allowances.

	Per Short ADT
Groundwood	$75.00 to $80.00
Unbleached Sulphite	115.00 " 117.00
Bleached Sulphite	121.00 " 125.00
Bleached Soda	120.00 " —
Unbleached Kraft	112.50 " 150.00
Southern Kraft	112.50 " 145.00

Canadian Quotations

Prices delivered with freight allowances unless otherwise specified:

	Per Short ADT
Select Unbleached Kraft (no freight allowance)	125.00 " —
Reg. No. 1 Kraft	112.50 " 115.00
Unbleached Sulphite	115.00 " 117.00
Bleached Sulphite	125.00 " 155.00
Glassine Unbleached Sulphite (no freight allowance)	112.00 " —
Bleached Soda	120.00 " —
Groundwood	75.00 " —
Sideruns Pulping News	75.00 " 80.00
Hardwood and Specialty Grades	Nominal

Swedish Quotations
On dock, Atlantic Ports

	Per Short ADT
Bleached Kraft	170.00 to 195.00
Bleached Sulphite	175.00 " 185.00
Unbleached Sulphite	145.00 " 165.00
Unbleached Kraft	140.00 " 155.00

Finnish Quotations
On dock, Atlantic Ports

	Per Short ADT
Bleached Sulphite	$175.00 to —
Unbleached Sulphite	145.00 " 150.00
Unbleached Sulphate	140.00 " —

New Domestic Cotton Cuttings

(Prices delivered Mill Plus Dealer's Commission)

White Shirt	$11.50 to $12.00
Light Silesias	7.50
Unbleached Muslin	11.50 " 12.00
White Back Blue Overalls	8.50
Blue Overalls	7.75
Unbl. Fancy Shirt	5.00 " 5.50
Light Percales	6.00 " 6.50
Light Prints	5.25 " 5.95
Washables	4.00
Bleachable Khaki	6.00 " 6.50
Unbleachable Khaki	5.50 " 6.00
Cottonades	5.00 " 5.50

Old Domestic Cotton Rags

(F.O.B. Shipping Point Plus Dealer's Commission)

	Per 100 lbs.
No. 1 Whites Repacked	$4.50
No. 1 Whites Miscellaneous	4.25
No. 2 Whites Repacked	4.00
No. 2 Whites Miscellaneous	3.50
Blue Overalls	3.75
Thirds and Blues Repacked	3.00
Thirds and Blues Miscellaneous	2.50
No. 1 Roofing Rags	1.65
No. 2 Roofing Rags	1.55
No. 3 Jute Bagging	1.45
No. 4 Brussels and hard back carpets	1.45
No. 5A Roofing Rags	1.45

New Foreign Cotton Cuttings

(Prices delivered Mill)

	Per 100 lbs.
New Dark Cuttings	$6.00 to —
New Mixed Cuttings	6.50 " —
Light Sielsias	nominal
Light Flannelettes	nominal
New White Cuttings	nominal
Fancy Shirt Cuttings	nominal
Light Prints	nominal
Bleachable Khaki, No. 1	7.00 " 7.50
Unbl. Khaki, No. 1	6.25 " 6.75

Old Foreign Rags

(Prices to Mill, f.o.b. dock, N.Y.)

	Per 100 lbs.
No. 1 White Linens	$14.00 to 16.00
No. 2 White Linens	12.00 " 13.00
No. 3 White Linens	8.00 " 9.00
No. 4 White Linens	8.00 " 9.00
No. 1 White Cottons	10.00 " 12.00
No. 2 White Cottons	8.00 " 9.00
No. 3 White Cottons	6.50 " 7.00
No. 4 White Cottons	5.00 " 5.50
Extra Light Prints	7.50 " 8.00
No. 1 New Light Prints	6.25 " 6.75
Med. Light Prints	5.25 " 5.75
Dutch Blue Cottons	5.25 " 5.50
Checks and Blues	4.00 " 4.25
Linsey Garments	3.00 " 3.75
Dark Cottons	2.20 " 2.60
Old Shopperies	2.50 " 3.00
New Shopperies	2.50 " 3.00

Bagging

(Prices to Mill, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny, No. 1	$4.75 to 5.00
Domestic Gunny, No. 1	4.25 " 4.50
Light Wool Tares	4.50 " 4.75
Heavy Wool Tares	4.75 " 5.00
No. 1 Scrap Bagging	4.75 " 5.00
Foreign Manila Rope	6.00 " 6.75
Domestic Manila Rope	5.75 " 6.50
Jute Strings	4.50 " 5.00
No. 1 Sisal Strings	5.50 " 6.00
Mixed Strings	1.75 " 2.50
Mixed Strings, Outthrows	.90 " 1.10

Waste Paper

Prices to Mills
(Dollars Per Ton)
F.o.b. New York, Baled

No. 1 Hard White Envelope Cuts, one cut	155.00 to 165.00
No. 1 Hard White Envelope Cuts	145.00 " 155.00
No. 1 Hard White Shavings, unruled	145.00 " 155.00
No. 1 Hard White Shavings, ruled	110.00 " 130.00
Soft White Shavings, one cut	145.00 " 155.00
No. 1 Soft White Shavings	135.00 " 145.00
Soft White Shavings, Misc.	125.00 " 135.00
No. 1 Fly Leaf Shavings	55.00 " 60.00
No. 2 Fly Leaf Shavings	50.00 " 55.00
No. 1 Groundwood Fly Leaf Shavings	30.00 " 33.00
No. 2 Mixed Groundwood Fly Leaf Shavings	nominal
Mixed Colored Shavings	nominal
Mixed Groundwood Colored Shavings	nominal
Overissue Magazines	nominal
No. 1 Heavy Books & Magazines	30.00 " 32.00
Mixed Books	18.00 " 20.00
No. 1 White Ledger	85.00 " 90.00
New Manila Envelope Cuttings, one cut	100.00 " 110.00
New Manila Envelope Cuttings	65.00 " 75.00
Extra Manilas	25.00 " 30.00
Mixed Kraft, Env. & Bag Cuttings	75.00 " 85.00
Kraft Envelope Cuttings	120.00 " 130.00
Triple Sorted, No. 1 Brown Soft Kraft	65.00 " 75.00
No. 1 Assorted Old Kraft	55.00 " 60.00
New Jute Corrugated Cuttings	27.00 " —
Old 100% Kraft Corrugated Containers	45.00 " 50.00
No. 1 News	14.00 " 18.00
No. 1 Mixed Paper	14.00 " 16.00
Box Board Cuttings	16.00 " —
White Blank News	75.00 " 80.00
Overissue News	20.00 " 24.00
Old Corrugated	30.00 " 32.00
Mill Wrappers	22.00 " 25.00

Twines

All Prices Nominal
(F. o. b. Mill)
(Soft Fiber)

Coarse Polished—India	.26	to	.29
Fine Polished—Fine India	.31	"	.33
Unpolished—Paper Makers	.20	"	.26
Tube Rope	.22	"	.27½
Wrapping	.26	"	.33½
Cotton	.70	"	—
(Hard Fiber)			
Mex. Sisal	.21	"	.34
Manila	.33	"	—
(Hemp)			
Polished Hemp	.63	"	—

PHILADELPHIA

Domestic Rags (New)

(F.O.B. Eastern Shipping Point)

Shirt Cuttings—			
New White No. 1	.11	to	.12
New White No. 2	nominal		
Light Silesias	.07½	"	.08
Black Silesias, soft	.06½	"	.07
New Unbleached	.10½	"	.11¾
Washable Prints	.06½	"	.07
Washable No. 1	.05	"	.05½
Blue Overall	.07½	"	.08
Cottons—According to grades—			
Washable Shredding	.03½	"	.04
Fancy Percales	.06¾	"	.07¼
New Black Soft	nominal		
Khaki Cuttings—			
Unbleachable Cotton Cuttings	.06	"	.06½
Bleachable Cotton Cuttings	.07	"	.07½
Men's Corduroy	.05½	"	.06
Ladies' Corduroy	.05	"	.05½
Cottonades	.05½	"	.06

Domestic Rags (Old)

(F.O.B. Eastern Shipping Point)

White No. 1—Repacked	4.50	to	5.00
Mixed White	4.00	"	4.25
White No. 2—Repacked	3.50	"	3.75
Thirds and Blues—			
Miscellaneous	2.25	"	2.50
Repacked	2.75	"	3.00
Roofing Stock—			
Foreign No. 1	nominal		
Domestic No. 1	1.85	"	1.90
Domestic No. 2	1.75	"	1.80
Roofing Bagging	1.65	"	1.70
Old Manila Rope	6.50	"	6.50

Bagging

(F.O.B. Eastern Shipping Point)

Gunny No. 1—Foreign	nominal		
Domestic	4.50	to	5.00
No. 1 Clean Bright—Sisal Strings	.04	"	.04½
No. 2 Clean Bright—Sisal Strings	.03	"	.03¼
Sisal Jute	.02¾	"	.03
Scrap—			
No. 1	4.25	"	4.75
No. 2	1.75	"	2.00

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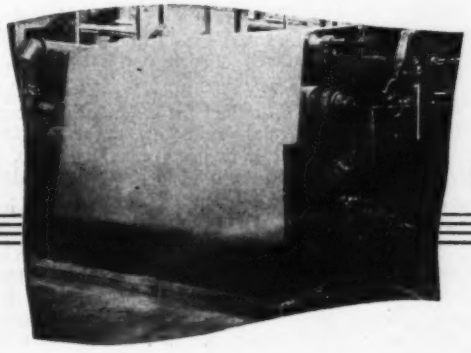


ORR·CHEM

Wool Tares, heavy	4.75	"	5.00
New Burlap Cuttings	6.00	"	6.50

Old Papers

(F. o. b. Phila.)

Mill Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	$100.00	to	$115.00
No. 1 Hard White Shavings, unruled	100.00	"	—
Soft White Shavings, one cut	90.00	"	95.00
White Blank News	70.00	"	75.00
Soft White Shavings	80.00	"	—
No. 1 White Ledger	80.00	"	85.00
Ledger, Colored	67.00	"	70.00
No. 1 Heavy Books & Magazines	30.00	"	32.00
Overissue Magazines	nominal		
New Manila Envelope Cuttings	80.00	"	—
No. 1 Assorted Old Kraft	60.00	"	65.00
No. 1 Mixed Paper	15.50	"	—
Box Board Cuttings	15.00	"	—
Kraft Corrugated Cuttings	90.00	"	100.00
Old Corrugated	30.00	"	35.00
Overissue News	30.00	"	—
No. 1 News	18.00	"	20.00

BOSTON

Old Papers

(F. o. b. Boston)

Mill Prices, Baled

No. 1 Hard White Shavings, unruled	7.00	to	8.00
No. 1 Hard White Shavings, ruled	7.00	"	8.00
Soft White Shavings, Misc.	6.25	"	6.50
No. 1 Fly Leaf Shavings	1.65	"	1.80
No. 2 Fly Leaf Shavings	2.00	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	1.25	"	1.50
Mixed Colored Shavings	2.50	"	2.75
New Manila Envelope Cuts, one cut	5.00	"	5.50
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	3.50	"	3.75
Mixed Kraft Env. & Bag Cuttings	3.75	"	4.00
Kraft Envelope Cuttings	3.75	"	4.00
No. 1 Heavy Books & Magazines	2.50	"	2.60
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	4.25	"	4.50
Groundwood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	3.50	"	—
No. 1 Mixed Paper	—	"	.95
Overissue News	1.50	"	1.75
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.50	"	—
Jute Corrugated Cuttings	1.07½	"	—
Paper Strings	2.25	"	2.50

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	—	to	4.75
Domestic	—	"	4.75
Sisal Rope No. 1	6.00	"	—
Sisal Rope No. 2	5.50	"	—
Mixed Rope	5.25	"	—
Mixed Strings	2.00	"	2.50
Transmission Rope—			
Foreign	(nominal)		
Domestic	3.00	"	3.50
Manila Rope—			
Foreign	(nominal)		
Domestic	6.25	"	—
Soft Jute Rope	5.00	"	5.25
Jute Carpet Threads	6.00	"	—
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	—	"	4.75
Domestic	—	"	4.87½
South America	5.25	"	—
Wool Tares—			
Foreign	4.75	"	—
Domestic	4.75	"	—
Aust. Wool Pouches	5.00	"	5.25
New Zealand Wool Pouches	5.25	"	5.50
New Burlap Cuttings	6.00	"	6.50
Heavy Baling Bagging	5.25	"	5.75
Paper Mill Bagging	3.50	"	3.75
No. 1 Roofing Bagging	1.75	"	—

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.08	to	—
Fancy Percales	.07½	"	.08
New White No. 1	.11	"	.11½
New Light Flannelettes	.08	"	.08½
Canton Flannels, Bleached	.10	"	.11
Underwear Cutters, Bleached	.10	"	.11
Underwear Cutters, Unbleached	.11	"	.12
Silesias No. 1	.08	"	.08½
New Black Silesias	.05	"	—
Red Cotton Cuttings	.05	"	—
Blue Overalls	.08½	"	.09
Soft Unbleached	.11	"	.12
Blue Cheviots	.08½	"	.09
Fancy	.08	"	—
Washable	.06	"	—
Khaki Cuttings	.06½	"	.07¾
Corduroy	.03½	"	—
Khaki Canvas	.06¼	"	.06¾
B. V. D. Cuttings	.10¾	"	.11¼

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	to	—
Miscellaneous	3.20	"	—
White No. 2—			
Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	2.00	"	—
No. 2	1.75	"	2.00
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.35	"	—
Quality B	1.20	"	—
Quality C	.95	"	—
Old Manila Rope	6.00	"	—

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

Mill Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	$110.00	to	$120.00
No. 1 Hard White Shavings, unruled	105.00	"	115.00
No. 1 Soft White Shavings	80.00	"	95.00
No. 1 White Ledger	55.00	"	65.00
No. 1 Heavy Books & Magazines	40.00	"	43.00
White Blank News	65.00	"	—
Mixed Kraft Env. & Bag Cuttings	75.00	"	85.00
No. 1 Assorted Old Kraft	45.00	"	55.00
Overissue News	28.00	"	—
No. 1 News	18.00	"	20.00
No. 1 Mixed Paper	12.00	"	15.00
Old Corrugated	30.00	"	34.00
Mill Wrappers	22.00	"	—

MARKETS

BLANC FIXE—Price boosts effective Oct. 1. Pulp is currently quoted at $77.50 per ton in barrels, car lots at works, and $82.50 l.c.l., f.o.b. works. Market steady, deliveries fair and supplies adequate.

BLEACHING POWDER—Market tightened. Demand firm. Shipments improved. Quotations are unchanged. Prices range from $3 to $3.75 per 100 pounds.

CASEIN—Current prices on processed acid precipitated casein remain at previous levels and are quoted around 31½ to 33 cents per pound for domestic grades and 32 cents for improved grades f.o.b.

CAUSTIC SODA—Market extremely tight. Production does not meet demand. Solid caustic is reported at $2.85 per cwt.; flaked and ground is quoted at $3.25 per cwt. in 400 lb. drums, $3.75 per cwt. in 100 lb. drums — car lots at works; liquid 50% in tank cars at $2.25 per cwt.; liquid 73% in tank cars $2.35 per cwt. at works.

CHINA CLAY—Market steady, domestic grades in good supply. Domestic filled clay is currently $9 to $11 per ton, car lots, coating clay $15 to $30, imported clay from $18 to $35 export warehouse.

CHLORINE—Heavy demand exceeds available supply. Market definitely tight. Quantities unchanged. Currently quoted $2.25 per cwt. in single unit tank cars, and $3.75 per cwt. in multi-unit tank cars, f.o.b. works.

ROSIN—Persistent and heavy demand. Market strong. Production drop due to weather. Scarcity apparent. Prices boosted. Gum rosin in drums per 100 pounds net, in yard, New York, car lots, B, D, $8.25; E, $8.50; F, $8.50; G, $9.15; H, $9.15; I, $9.15; K, M, N, $9.65; WG, $9.75; WW, $9.85. Wood rosin, per 100 pounds net, f.o.b., l.c.l., N. Y., $6.45; FF, $7.95; G, H, I, K, M, $9.03; N, $9.09; WG, $9.45; WW, $8.87; X, $8.97.

SALT CAKE—Demand continues strong with slight improvement in shipments. Prices remain unchanged. Domestic salt cake is quoted at $20 to $26.

SODA ASH—Contract prices adjusted to higher levels. Expanding demand with no improvement in supply situation. Current prices, car lots, per 100 pounds, are as follows: in bulk, $1.10; in paper bags, $1.30; and in barrels, $1.80.

SODIUM BICARBONATE—Supply good. Reported at $1.85 per cwt. paper bags, carload lots.

STARCH—Market steady. Active demand, export demand light. Pearl grade quoted at $6.57 per 100 pounds, powdered starch at $6.48 per 100 pounds, car lots, Chicago.

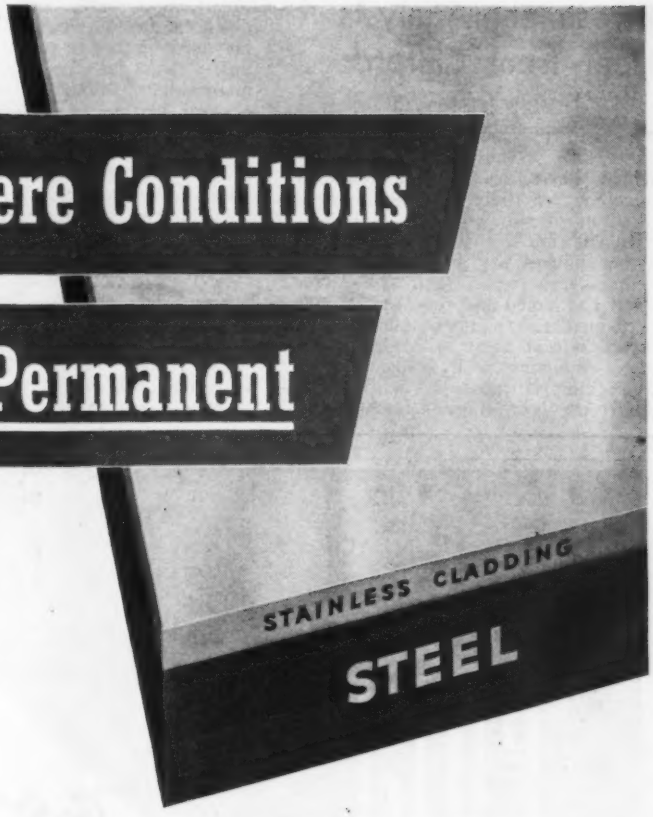
SULPHATE OF ALUMINA—Production insufficient. Buying tight. Prices firm. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.30 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is quoted at $1.95 to $2.25 per 100 pounds in bags at works.

SULPHUR—Supplies ample to meet increasing demand. Annual contracts are quoted at $18 per long ton, f.o.b. mines; the price f.o.b. at Gulf ports is $19.50 per long ton.

TALC—No improvement seen in domestic market. Demand far in excess of supply. Domestic grades are currently quoted at from $16 to $30 per ton in mines; Canadian at $35 to $45 per ton. All prices in car lots.

Even Under Severe Conditions

...the Bond is Permanent



All known types of bond strength tests on Lukens Stainless-Clad Steels add up to this: bond strength equals or exceeds that of the steel backing plate. The results of one such type of test—a standard ASTM-ASME shear strength test made at the bond line on stock plates taken at random—are tabulated below.

The Lukens method of manufacture assures this permanent bond. It also provides a uniform thickness of cladding—a matter of prime importance in fabrication.

There is a whole family of Lukens Clad Steels—the widest variety of claddings available anywhere. For information on Lukens Stainless-Clad Steels, write for Bulletin 338; on Lukens Nickel-Clad, Inconel-Clad and Monel-Clad Steels, ask for Bulletin 255. Lukens Steel Company, 403 Lukens Building, Coatesville, Pennsylvania.

Shear Strength of the Bond in Lukens Stainless-Clad Steel Plates in the Annealed Condition

Type	Gauge	Percent Cladding	Shear Strength *(psi)	
			Minimum	Maximum
304	½"	20	44,900	54,900
316	½"	20	46,400	52,600
316	¾"	10	40,700	55,900
347	½"	10	44,400	48,000
410	1"	10	42,200	47,300

*ASME specified minimum shear strength of clad steel bond is 20,000 psi.

LUKENS
Nickel-Clad Stainless-Clad
Inconel-Clad Monel-Clad
STEELS

SOLID METAL ADVANTAGES WITH CLAD STEEL ECONOMY

Investment Analysts Hear from Clifford

(Continued from page 9)

who had purchased a gigantic war plant near Birmingham, Alabama, which "in the near future, should produce 350 tons daily of pulp and around 200 tons of sulphate."

In addition to providing some interesting figures on the growth of the demand for paper, figures the trade itself has heard and repeated on many occasions, the Kimberly-Clark official struck out at those who charged the paper industry with being a highly fluctuating business. "The paper industry may not go up as far as many," Mr. Clifford said, "but it doesn't go down as far as many others either." He used figures to prove that the industry was far less fluctuating than many others, saying that while in 1921 general business activity was off around 25 percent the paper industry was off around 29 percent, "much lower than many bellwether industries of the country." In 1932, he reported, the general business was off 42 percent while the paper industry activity declined only 27 percent. In 1932-1939, general business was up 47 percent, according to Clifford, but the paper industry was up 71 percent.

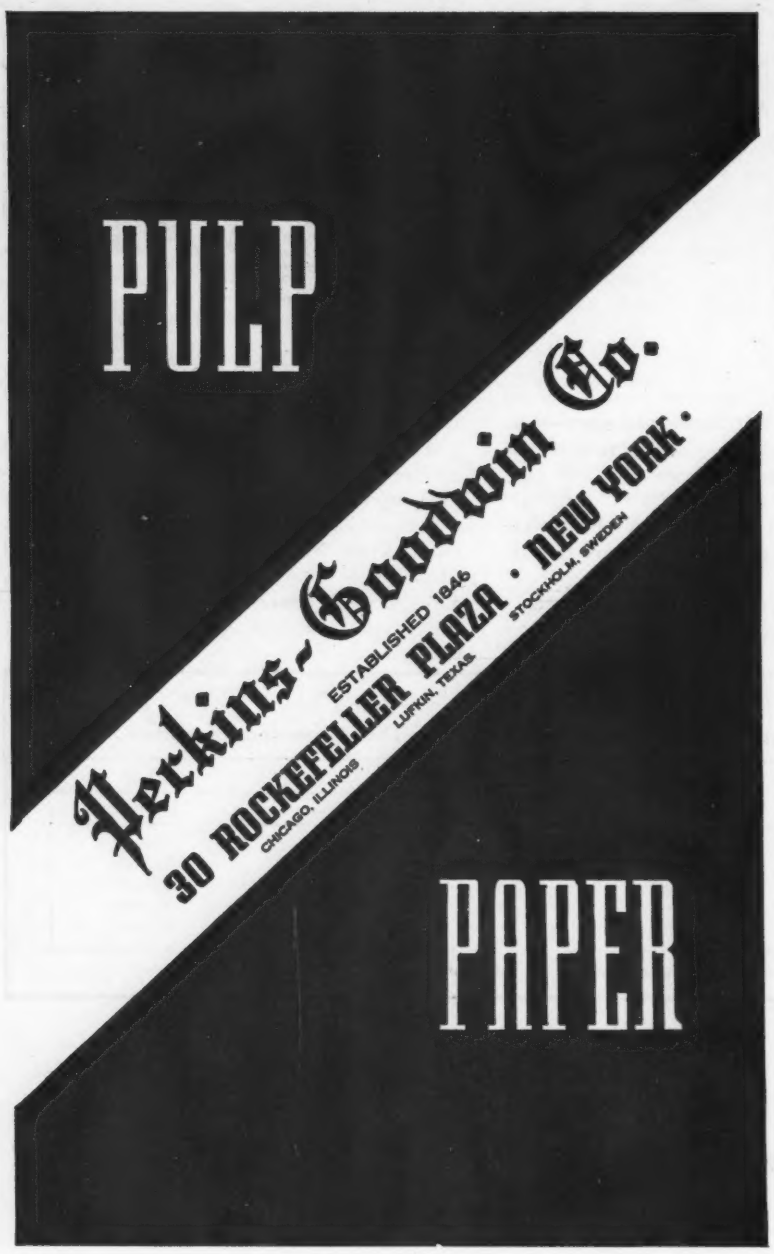
As far as book paper is concerned, Mr. Clifford stressed the effect of marginal mills on the supply of newsprint and book papers. Finding conditions too difficult for them in the newsprint business, he said, they had gone into the production of low grade book papers which had caused book paper production to go up and newsprint production to suffer. "Book paper," said Mr. Clifford, "has been below the trend in production through 1941 and 1946. It is improving now and barring a major recession, there is no saturation in sight for book paper this year or next year nor can we visualize an over-supply in the near future or as far ahead as you care to guess." He added that he felt Southern book paper mills would become more competitive and that the "marginal mills will begin to find the going much tougher."

In addition to outlining the reasons why the production of pulpwood was the bottleneck of the industry and in forcefully demonstrating the tremendous increase in population and per capita use of paper as compared to the capacity production of the industry, Mr. Clifford threw in some figures on the future that would make even the most hardened paper trade executive wince. "One cord of pulpwood is needed to take care of one nationally known trade paper subscriber for seventy years — about the average time it takes to replenish the supply. Two and one-half acres of pulp wood a week are needed just for one well known business trade paper."

The audience was also interested in Mr. Clifford's brief picture of the history and policies of Kimberly-Clark. "This is our seventy-fifth anniversary," the speaker said. "Seventy-five years ago we started with $30,000 and produced two tons of newsprint daily. Now we are involved in a $60 million operation producing 1300 tons a day and in two years we will make that figure 2300 tons. Our policy is unchanged.

"Over all these years there have been only two changes in top executive personnel, and these through death. We still believe we can do our best job through research and analysis of general business to determine the requirements and to build the plant capacity to meet these requirements. Our expansion has usually, with the exception of war time, taken place during times of depression. If you build during depression you come out of the economic difficulties with more facilities to produce and to anticipate and fill the demands of a revived economy. It gives you a head start!"

Mr. Clifford reported that the current expansion program of the company, including the Niagara mill in Wisconsin, Canadian mills and elsewhere, was going along on schedule and well along the road to completion. "Expansion is a difficult problem now," said Clifford. "It is hard to get deliveries. There are bottlenecks that throw everything off of schedule and there is not the pride in performance on the part of some nationally and favorably known companies that once was a characteristic of their operations."



INTERESTING FACTS ABOUT PAPER

Paper, deriving its name from papyrus, the Egyptian water plant, was first developed by the Chinese about 105 A.D. They made it from mulberry bark, bamboo and old fish nets, and they kept their process secret from the rest of the world for several hundred years.

INTERESTING FACTS ABOUT DIRECT CHINOLINE

DIRECT CHINOLINE is the brightest and greenest direct yellow. Possessing excellent solubility, level dyeing and good light fastness, it is recommended for use in coloring bond, book and cover papers to produce bright yellows or greens in combination with QUINIZOL BLUE BP CONC. DUSTLESS.

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Package Machinery Makers Hold Meeting

SPRINGFIELD, Mass.—Meeting in the New England area for the first time, the Packaging Machinery Manufacturers Institute held its fifteenth annual meeting on October 5-6-7. Attendance was the largest in the Institute's history.

Presiding over the opening business session held on October 6 was E. J. Kuhn, president of the Consolidated Packaging Machinery Corporation of Buffalo, who acted as chairman. After a brief welcome to Springfield by George A. Mohlman, president of Package Machinery Company, the Institute conducted its annual business meeting, with reports from the president and the nominating committee, together with the election of new directors.

George W. von Hofe, president of the New Jersey Machine Corporation, Hoboken, N. J., was re-elected president of the Institute.

Vice-presidents elected were: John P. Corley, vice-president, Miller Wrapping & Sealing Machine Company, Chicago, and Howard R. Stewart, general manager, Economic Machinery Company, Worcester, Mass.

Elected to the board of directors were: H. Kirke Becker, president, Peters Machinery Company, Chicago; Harry L. Cohen, vice-president, S.&S. Corrugated Paper Machinery Company, Brooklyn; and M. H. Pendergast, vice-president, Lynch Package Machinery Company, Toledo, Ohio.

They succeeded Harry A. Miller, Burt Machine Company; Boyd H. Redner, Battle Creek Wrapping Machine Company; and Oscar W. Wikstrom, U. S. Automatic Box Machinery Company, who had completed a three year term on the directorate.

Wheelco's New Booklet Describes Capacilog

CHICAGO — A 16-page Technical Data Book on the Capacilog, "Electronic Scriber," has just been released by Wheelco Instruments Company. Operational diagrams, schematic drawings, charts and listings explain the diversified functions of the company's new strip chart recorder. The operation of measuring systems as deflection, potentiometer and resistance thermometer, electronic circuit and recording system are treated individually. Control switching actions are shown on a simplified diagrammatical chart. A section of the book gives instrument specifications and mounting dimensions.

Philips Diffraction Course Set for November 17

NEW YORK—Fall course in X-ray Diffraction and Spectrometry will be given from November 17th-21st at the New York offices of North American Philips Company, Inc., at 100 East 42nd Street. Purpose of the course is to acquaint industrialists, technicians and research specialists with fundamentals of X-ray diffraction and its applications. Lectures will be given daily, followed by laboratory work and question and answer periods.

This year, a new Geiger-Counter Fluorescence Analysis Unit will be demonstrated following its introduction to the trade at the National Metals Show during October in Chicago. A special lecture will be given covering use of the new apparatus for quantitative analysis of metals and metal-bearing compounds.

In general, sessions will begin at 9:30 A.M. and will end at 5:00 P.M. Laboratory facilities will include two Geiger-counter X-ray Spectrometers, an X-ray Diffraction Unit with all types of cameras, and the new Fluorescence Analysis equipment.

Behr-Manning Buys Adjoining Land

WATERVLIET, N. Y.—Another move in the industrial expansion of this section is forecast by the announcement that the Behr-Manning Corp. has acquired a large tract of land adjoining its abrasives property. A representative of the firm stated that the property was acquired for future use. The newly acquired tract bounds the present property on the west and south and connects with the Delaware & Hudson Railroad. Expansion of the property has been under way for some time

Langston Open House Celebrates 35th Year

CAMDEN, N. J.—The Samuel M. Langston Company held Open House on Sunday, October 12, for its employes and their families. With employment at an all time high of 270, about 229 employes attended, most bringing members of their families, for a total attendance of 925.

It is of significance that October, 1947 marks the 35th Anniversary of the completion of the company's building at its present location. Prior to that time Langston had used space in other buildings. The company just recently finished a project which started with a 57 x 130 ft. addition to its plant, which is now used for a machine erection floor.

At the same time, the company enlarged its engineering department and made other alterations to existing buildings. However, when these changes were completed, the company commenced re-arranging its machine tools with the result that now approximately seventy-five per cent of the machine tools have been repositioned for greater efficiency.

The Open House afforded the employes the opportunity to show their families where they work, what they do and the types of machinery made by the company. Refreshments and mementos of the occasion were available for all. One memento was a little booklet giving a brief history of the company, a list of company benefits for employes and a brief description of the type of equipment built. The company manufactures a complete line of corrugated box machinery, machinery for the fibre can and tube industry, and slitters and rewinders for paperboard and paper mills.

Main Staff Moves to Larger Offices

BOSTON — Chas. T. Main, Inc., has united its Boston offices in new and larger quarters on the fifteenth floor of the Chamber of Commerce Building at 80 Federal Street.

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Pulp & Paper Join In Safety Meeting

CHICAGO — The paper and pulp industry took a prominent part in the 35th National Safety Congress and Exposition held in four Chicago hotels during the past week. The most successful from the standpoint of attendance in the entire history of the Congress, the sessions likewise drew an unprecedented number of paper trade executives to the city. Paper and Pulp Section activities were under the general chairmanship of E. A. Page, superintendent of personnel of the Kimberly-Clark Corporation, who opened the speaking program on October 5 with a general progress report. He was followed by Fred W. Braun, vice-president and chief engineer of the Employers Mutuals of Wausau and chairman of the Statistics Committee of the Paper and Pulp Section. Both Mr. Page and Mr. Braun reported that despite high rates of productivity, the industry did a splendid job of accident prevention during the year.

Irving McNair, vice-president of the Northwest Paper Company, looked at industrial safety from "an amateur viewpoint," providing a most interesting background of the way a non-professional looks at safety work. The final report of the 1946-47 Paper Industry Safety Contest was presented by A. Scott Dowd of the Fritz Publications, Inc., and National Safety Council Trophies and the Edward Benton Fritz Memorial Trophy were presented by John Long and Mrs. E. B. Fritz, respectively.

On the afternoon of October 7, H. H. Aderhold, personnel supervisor of the Marathon Corporation presided with William C. Berthold, assistant superintendent of finishing operations of the Mead Corporation, as the first speaker. Mr. Berthold discussed hazards related to paper finishing operations. A symposium presenting carefully selected problems in paper products manufacturing followed with Mr. Aderhold as the discussion leader. Participating in the symposium were Clifford Kemp, Thilmany Pulp & Paper Company, discussing bag manufacturing hazards; Robert D. Caine, superintendent Wax and Parchment Production of Kalamazoo Vegetable Parchment Company, outlining waxing and lamination hazards; E. G. Woodman, Ruberoid Company, outlining asphalting hazards; John Reimer, superintendent of carton manufacture of the Marathon Corporation, who presented the problems surrounding the manufacture of cartons.

During the evening of October 7, H. P. Huebner, insurance manager of the Flinkote Company, presided over a meeting which included reports of nominating committees, election of officers and an informal round table discussion.

A session for the Pulpwood Loggers Group was held on October 8 with James A. McGivney, safety director of the Brown Company, as the presiding officer. Alben Keenan, assistant superintendent, woods operations for Hollingsworth & Whitney, presented a paper on the foreman's responsibility for safety in woods operations; and Dr. Arnold E. Hanson, director of company relations of the Brown Company, outlined some effective approaches to accident prevention in woods operations. A color sound motion picture on woods operations, "King Spruce," concluded the Wednesday afternoon session.

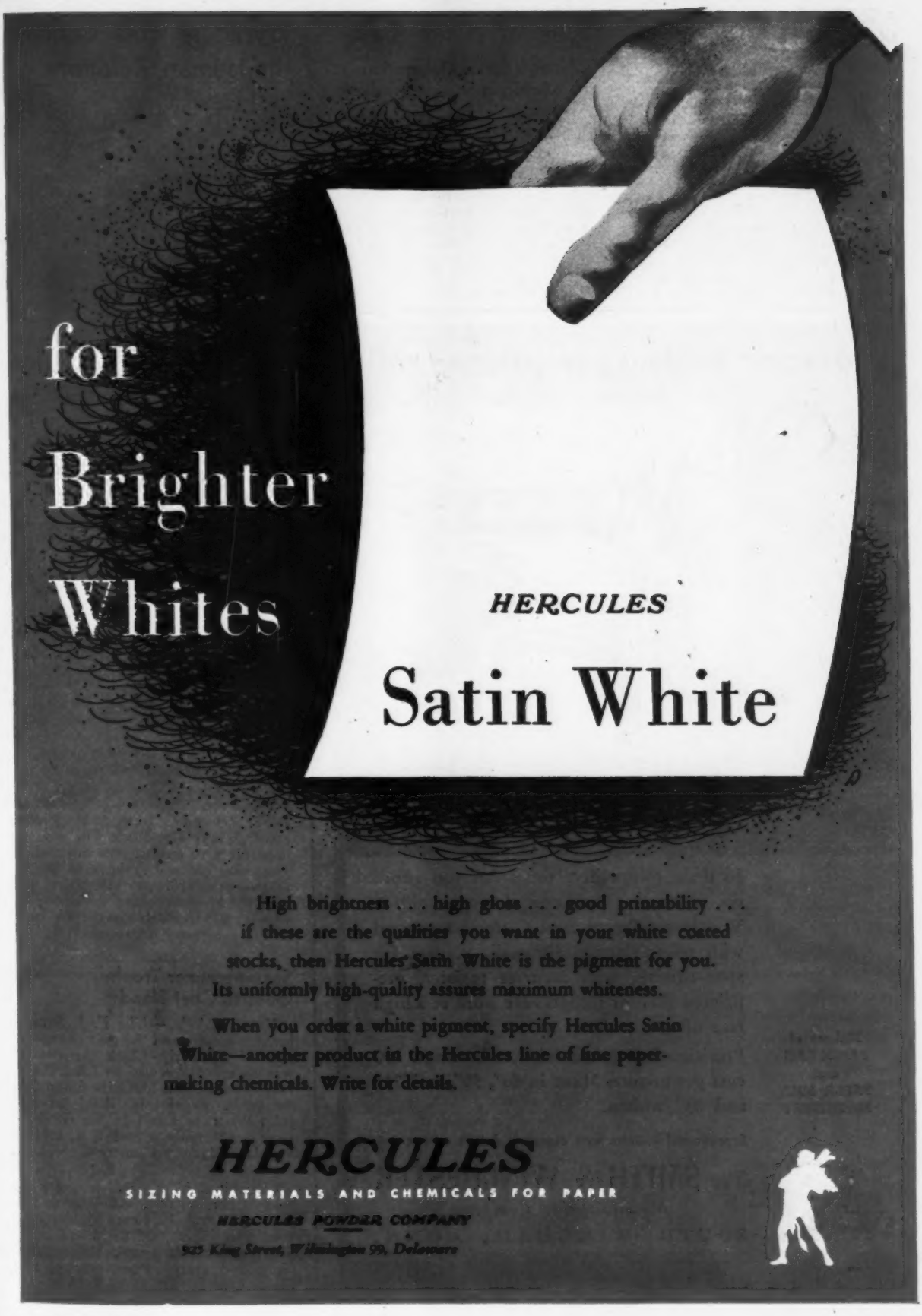
The final meeting on the afternoon of the 9th at the Stevens Hotel, featured four round table discussions in separate rooms on specific questions. This innovation in program preparation found widespread appreciation from those who wanted "brass tack" approaches to specific problems. George W. Harper, safety director of the Mead Corporation, presided. Discussions covered woods and logging operations, pulp mills and wood yards, the paper mill and paper products manufacturing.

In addition to attending these sessions, the paper and mill executives present carefully inspected the two separate exhibits. Both at the Sherman Hotel, they featured the industrial exhibit, where displays of new and standard equipment and materials for all phases of industrial accident prevention, health and hygiene, were presented, and the public service exhibit, which, though of primary importance to municipal authorities, gained some real attention from men in all branches of business life.

Calco Technical Staff Hears Lecture by McBain

Dr. James W. McBain, Professor of Physical Chemistry, Stamford University, was guest speaker at a meeting of the company research and technical staff of the Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. Dr. McBain spoke on the subject "Solubilization." Prior to the meeting, Dr. McBain visited the extensive Calco laboratory facilities, including the Physical Chemistry, Microscopical, Organic and Inorganic Research Sections, as well as the application and control laboratories.

Commenting on the great advances which have been made by industrial research, Dr. McBain observed that there is a great tendency in too many college research laboratories to become too far removed from the field of practical application. In the latter, hard stubborn facts, predominate that do not fit in with the scientific theories that are almost a necessity in college classrooms. Industrial application is ten years ahead of scientific theory and offers a continuous challenge to academic men whose duty it is to find the rational explanation for it and thus further research.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Allis-Chalmers Names Conn Manager New Branch Office

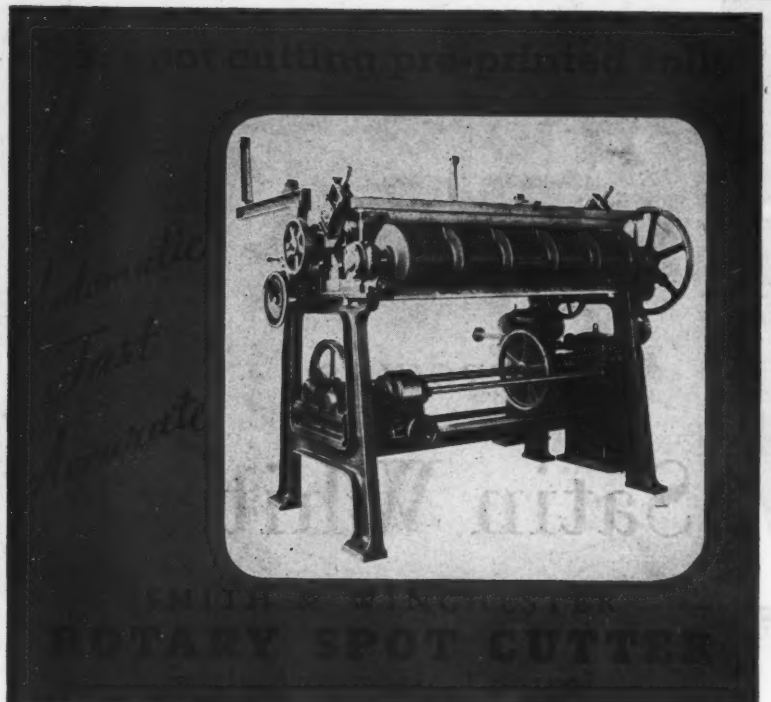
MILWAUKEE, Wis.—G. Edward Conn, Jr., has been named manager of the newly established Allis-Chalmers branch office at York, Pa..

An electrical engineering graduate of the Drexel Institute of Technology, Conn has been employed by Allis-Chalmers since January, 1940, and since April, 1943, has been salesman in the company's Philadelphia district office. He is a member of the American Institute of Electrical Engineers.

MacGregor G. Jones, former resident representative at the Allis-Chalmers Harrisburg branch office, which has been discontinued, will assist Conn at York as sales representative.

Chicago Sends Delegation To Michigan Superintendents

CHICAGO—The Michigan Division of the Superintendents Section of APPA will hold a regional meeting at Kalamazoo, Michigan, on October 16. Several from the Chicago area are expected to attend the dinner session which will be addressed by Professor J. A. Apple of Michigan State College who will discuss "Fire Protection and Safety in Pulp and Paper Mills." Safety assistants are receiving a special invitation to attend.



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Syracuse Has Course In Human Relations

SYRACUSE, N. Y.—The New York State College of Forestry at Syracuse University has claimed credit for being the first forest school in the Nation to inaugurate a supplementary course on "Human Relations in Forestry." Dr. Joseph S. Illick, dean of the College, commenting on the importance of Human Relations in Forestry said, "I have yet to find a single instance where a forester failed wholly for the lack of technical training, but in practically all instances of failure it was because of a lack of an understanding of human relations."

During this course, which is for seniors and graduate students, lectures will be given by outstanding economists, specialists in public relations, and foresters.

The first series of lectures will cover a period of five weeks and will be given by R. Lynn Emerick who was State Forester of Pennsylvania for 16 years. Mr. Emerick is a graduate forester and voluntarily retired from the Pennsylvania Forest Service in January of this year after 40 years in the forestry profession.

Dr. Illick states that Mr. Emerick has had a long and varied forestry career. His first assignment was among the early lumbering operations of northern Pennsylvania. Then he was sent to the Anthracite Mining Region of Pennsylvania to promote forestry and the planting of forest tree seedlings on the barren areas owned by coal companies. It is a matter of record that he achieved excellent results as is evidenced by the thousands of acres of thriving forest tree plantations in this area today.

Later he was Director of State Public Relations. "Early in his forestry career," says Dr. Illick, "he saw the importance of human relations and the prominent place they have in the development of forestry. He found that human relationships are considered essential as individuals are the life blood of every forestry organization."

Sensenbrenner Trophy Goes to Chet Bland

NEENAH, Wis. — The F. J. Sensenbrenner trophy and the golf championship of Kimberly-Clark Corporation was awarded recently to Chet Bland, who defeated Bill McGuire 6 and 5 in the finals. Previously Bland defeated John Fourness 4 and 2; Jim Grode, a former champion 3 and 1, and Herb Stinski, Ridgeway Country Club champion.

Champions in other flights, determined earlier, are: Steve Cvengros, "A" flight title and the Ernst Mahler cup; John Bletzinger, "B" flight and S. F. Shattuck award; Frank Wilton, "C" flight and Harry Price trophy; and Elmer Quayle, "D" flight, KCA trophy.

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What gives the people of this country so many more material advantages than those enjoyed by the average of the great mass living outside our borders? With only our equal share of total land area, considerably less than our share of the world's waterpower, and practically none of many of the important natural resources such as nickel, tin, rubber, manganese, mercury, etc., we have 75 percent of the automobiles, and a proportionate amount of the other luxuries of life.

It boils down to this; with six percent of the world's population, we are doing 40 percent of the world's work. And if anyone has any doubts as to that, let him look at the Lend-lease bill piled up during the recent war and consider what the Marshall plan calls for in the future.

The answer to our productive effectiveness lies, therefore not in our size, nor in our ownership of the physical control of natural resources. The answer lies in the aggressive spirit of the American enterpriser who, living in an economic democracy, is encouraged to give full rein to the creation of better goods for more people. . . .

From a speech by Federal Trade Commissioner LOWELL B. MASON, *before the* American Bar Association, Chicago, October 13.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1947		Corresponding Weeks—1946	
September 6	84.7	September 7	86.7
September 13	106.9	September 14	105.1
September 20	108.6	September 21	105.8
September 27	107.0	September 28	106.6
October 4	109.5	October 5	107.2
October 11	*108.4*	October 12	105.9

COMPARATIVE MONTHLY SUMMARIES

1946						1947	
Jan.	94.7	June	104.6	Dec.	97.0	Apr.	105.1
Feb.	98.4	July	94.0	Year Avg.	101.1	May	106.2
Mar.	104.4	Aug.	104.7			June	106.0
Apr.	102.7	Sep.	101.3	Jan.	102.1	July	93.5
May	100.7	Oct.	106.4	Feb.	105.9	Aug.	104.2
		Nov.	105.5	Mar.	106.1	Sep.	*102.0*

COMPARATIVE YEARLY SUMMARIES

	1940	1941	1942	1943	1944	1945	1946	1947
Year to Date	86.2	95.6	92.0	88.3	88.2	88.6	100.7	*103.7*
Year Average	85.6	97.4	90.4	87.8	88.1	89.4	101.1	

PAPERBOARD OPERATING RATIOS†

Current Weeks—1947		Corresponding Weeks—1946	
September 6	79	September 7	83
September 13	103	September 14	101
September 20	101	September 21	100
September 27	102	September 28	101
October 4	100	October 5	100
October 11	*102**	October 12	99

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1946	90	91	100	99	94	97	89	99	96	100	99	92	96
1947	99	103	101	100	101	101	90	99	96				

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

EDITORIAL

High Cost of Idleness

For those publishers who have paid two or three times the present normal price for their newsprint supplies—for those pressroom crews that have remained with their arms folded in many smaller printing shops, while the presses stood quiet for lack of paper, the Newsprint Association of Canada has presented some facts in a fashion calculated to be arresting. Enough capacity in newsprint mills of the world is now unused and unproductive to cover the United States newsprint shortage for this year and next some seven times. All that is needed to get this capacity into operation is to supply it with raw materials and with some minor repairs.

In a presentation made to the House of Representatives Select Committee on Newsprint and Paper Supply the Canadian group went to great lengths to give a candid picture. Some of its information was highly enlightening to those who had taken it for granted that a shortage of newsprint means a shortage of productive capacity; that a cure for such a condition must involve a movement to open new woods areas and put up costly new mill equipment.

The present world shortage of newsprint is estimated by the Canadian association at 1,140,000 tons this year, and 1,051,000 tons in 1938. The United States excess of demand over supply is estimated at 235,000 to 245,000 tons for 1947-1948. Against this it is estimated by the Canadian group that various countries of the world have standing idle machine capacity of about 1,734,000 tons this year, and 1,500,000 tons next year. This, it is pointed out, represents about twice the present output of all the newsprint mills in the United States.

Credit Assurance

To recent revisions of discount terms in some industries, and to hints—mostly back of the hand type—that there may be need for restrictions on credit, the National Association of Credit Men offers a reassuring comment that there is no basis of fact for alarm. Henry H. Heimann, executive manager for the association declares, on the other hand, that while many credit executives report that their bad debt losses are increasing, such increases are at present not alarming as they are still well below pre-war levels. The increase makes a considerable showing, Mr. Heimann points out, because during the war credit losses were at the lowest point.

He does warn, however, that most of the present increases in credit losses are from new business concerns, in many cases those less than a year old. Here again he cautions that with many thousands of new enterprises being launched during the past twelve months, a large number of cases have already indicated a lack of capacity for management and profitable operation, and that the record on these new accounts makes it evident that more than ordinary care must be exercised in accepting the credit of new undertakings.

On the question as to whether or not there is a trend away from allowing cash discounts, Mr. Heimann reported that fully eighty per cent of the companies he has questioned about this point have indicated that they have not changed their cash discount terms, while 10 per cent indicate a lower cash discount and the number indicating they plan to eliminate cash discount was quite small.

Opportunity

An opportunity to help with the assurance that the proffered assistance will come to hands that know how to use it has been circulated in this country by a traveller lately returned from Finland. Mr. Martti Levon, director of the Institute of Technology at Helsinki recently took a visitor through the present facilities of that institution and showed how the library which it formerly boasted had been bombed out and destroyed during the war. That visitor, a member of the American Friends Service Committee reports that Dr. Levon said he would welcome gifts of scientific and technical books and periodicals from America to take the place of those destroyed. In the remarkable efforts for recovery that the Finns are making, the lack of technical library facilities is a very serious handicap. It would be a practical act of friendship to a nation that holds America in high regard if Americans should contribute good technical books and periodicals to this library.

Such gifts should be marked for the Institute of Technology, Helsinki, and sent to the Legation of Finland, 2144 Wyoming Ave., N. W., Washington, D. C. Dr. K. T. Jutila, the Finnish Minister, will arrange for their being shipped to Finland.

Mileage Costs

In a period of history that has become accustomed to look only at totals and to disregard details it comes as something of a sobering influence to pause and examine minor figures that are often neglected because we just don't think about them. An example is the arresting statement made last week by R. M. Fowler in an address before the Canadian Club of Montreal. For the timber limits needed to support a 200,000 ton newsprint mill, he declared, a thousand miles of road would have to be built at a cost of $6 million.

W. L. Cook

Editor

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Testing of Clays for Paper Machine and Brush Coating*

By Ivan L. Lester[1] and S. C. Lyons[2]

Abstract

Testing methods of clays for coating should measure production quality and functioning of clays in coating mills. Most important property of clay is particle size, which affects finish, viscosity, and hiding power. Sedimentation methods, especially those which employ centrifugally accentuated settling forces, have been most successful for particle size determinations on the research level. A simple, abridged centrifugal, empirical test has proved to be sufficient for control testing.

Brightness-determination samples must be carefully prepared, with uniform comminution, drying, and sample-compacting pressures.

Viscosity and related flow properties can seriously affect coating machine operation. Tests made on "colors" involving clays and adhesives do not adequately measure clay factors, due to variations in adhesives. A method which measures viscosity of dispersed 70%-solids aqueous uspensions of clay with rotation-type viscometers offers promise as a testing method.

Moisture may be determined by difference, or by the toluene-distillation method.

Reagent (or dispersant) requirement of the clay is critical. Minor changes in dosage of chemical may involve major changes in viscosity and completeness of dispersion. A practical method is to successively add increments of reagent, measuring viscosity after each addition until a minimum viscosity has been established.

Miscellaneous tests include pH, screen residue, color, acidity, and hand sheets. pH is determined electrochemically on 20% solids suspension. Screen residue is determined on 200-mesh. Color is visually observed by comparison of water paste of sample and a standard clay. Handsheets are prepared using a film applicator and a standard coating formulation.

Indications of such handsheets must be considered in light of varying viscosity, coat weight, and coat thickness.

It should be apparent that there is an immediate need for establishing reproducible and generally accepted methods for testing coating clays. The present state of clay testing may be illustrated by the remark of a technical man of one of the most progressive machine coaters. When complimented on the advanced state of the testing methods used by his company, he said "Some of our competitors evidently haven't yet arrived at the state of complete confusion which we have."

Testing of coating clays suggests to the clay producers the evaluation of such characteristics as particle size distribution, brightness, viscosity and related flow properties; together with such tests as moisture content, grit (or screen residue), acidity, pH value, and the like.

To cover such a group of tests in detailed, academic fashion would be too long for a paper of this sort. In the combined interests of brevity and clearness, the authors prefer to develop the subject along the line of showing the correlation of clay quality characteristics with results in coating operation, as far as it is possible to so correlate them at this time, and touch only generally details of actual testing methods.

Details of these methods are being prepared for publication in the forthcoming TAPPI Monograph *Pigments for Paper Coating* and can be obtained from the clay producers.

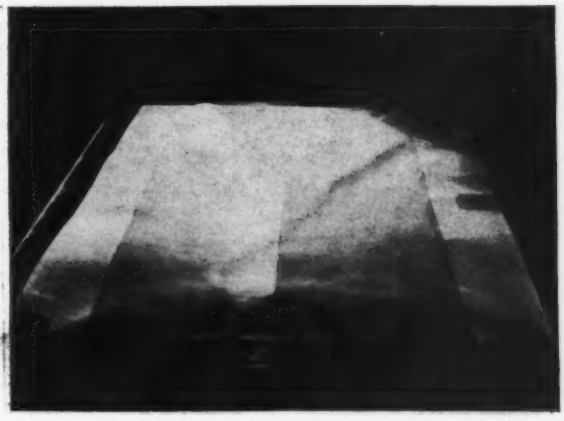

FIG. 1

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 24-27, 1947.

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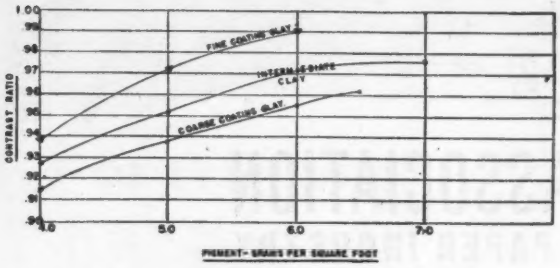

FIG. 2

Hiding Power vs. Pigment Weight with Various Fineness Clays

Particle Size

During the past decade, it has been shown that, probably, the most important single property of a clay—from the standpoint of the paper coater—is its particle size.

It is known that the particle size of the coating pigment is closely correlated with the gloss or finish of the coated paper *(1)*. The finer particle materials develop a higher gloss in both the uncalendared and calendered coated paper than do the coarse clays.

Figure 1 shows a photographic comparison of gloss between coatings made from a fine-particle coating clay, and a nonfractionated or coarse-particle clay. The gloss of the fine-particle coating, on the left, will be noted as compared to the dull, matte finish of the coating on the right. One would hardly believe that the comparative brightness of the two clays used was 86 against 83%, respectively.

Other factors which should be considered in connection with particle size are its relation to viscosity and hiding power. Generally, the finer clays will produce colors of higher viscosity values, when examined under identical conditions. The finer clays also will have better covering, or hiding power *(1)*.

Figure 2 shows a comparison of hiding power obtained with clays of various fineness. This quality is measured by "Contrast Ratio"—on this graph, a perfect hiding power would be denoted by a ratio of 1.0. These curves clearly show that at any given level of pigment weight, the finer clays yield improved hiding power.

Determination of Particle Size.

There are three general types of particle-size measurement, viz., optical, sedimentation, and isothermal gas adsorption.

The optical methods, since they were more obvious, were among the first to be tried. They are time-consuming, their data are not easily expressible in numbers, and their results are not readily reproducible. Besides, the samples employed in optical determinations are so small that they frequently are not representative of the lot from which they were taken. Optical methods, as currently developed, are not well adapted to the control testing of coating clays.

Gas adsorptive methods require elaborate apparatus and complicated techniques.

The sedimentation methods have proven to be the most acceptable for practical purposes.

These may be subdivided into two types, viz., those employing simple gravity settling forces; and those which usually combine a preliminary gravity settling treatment with a subsequent sedimentation in which centrifugally augmented settling forces are employed.

The first type is exemplified by the hydrometer method of Casagrande *(2)* or the pipet method of Andreasen *(3)*. These methods are limited in range to a particle fineness of approximately 0.75 μ and are too time-consuming for effective control purposes.

The second group is satisfactory for research and development purposes, but it, too, is rather time-consuming and requires fairly cumbersome equipment and techniques. Typical are the methods of Norton and Speil *(4)* and of Martin *(5)*.

Both of these methods require 8 to 30 hours for an analysis. As a routine control test, they are both too time-consuming and too complicated. The clay producer cannot wait even 1 hour on a control test result, when he is operating a plant capable of producing upwards of 20 tons of coating clay per hour —if he did, he would have manufactured half a car of clay before getting a check on it.

On the other hand, the coater, while he may be interested in actual size distribution of clays from a research or development point of view, is not so much interested in actual particle size distribution as he is in uniformity of shipments when he is considering his plant operation.

To meet these requirements, a rapid test was developed about 10 years ago *(6)*. It consists of centrifuging a low-solids, deflocculated, aqueous suspension of the clay at constant speed, and determining the sediment thrown from suspension at various intervals by interrupting the centrifugation and reading the volume. These sediment readings are then compared with similar data already developed from clay samples which are known to be of satisfactory particle fineness.

FIG. 3

FIG. 4

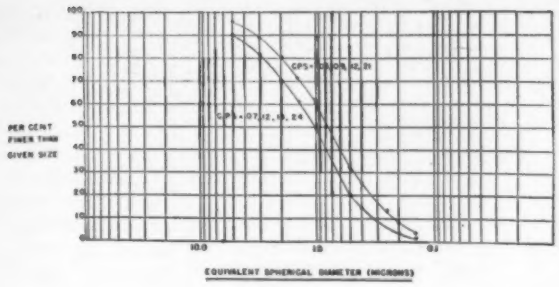

FIG. 5
Particle Size Distribution

In Fig. 3 the apparatus for making the centrifugal particle size test is shown. It consists of the centrifuge, centrifuge cells (which are selected and accurately calibrated as to sedimentation properties as well as volume), and other equipment. As a matter of convenience, the readings from this test are referred to as C.P.S. values.

In Fig. 4 typical C.P.S. sediment readings are shown. On the left is a fine particle size coating clay, at center is a clay of intermediate particle size, and at right is a filler clay. These readings were photographed after centrifuging for 10 minutes.

While this test does not give particle size directly in micron dimensions, it can be correlated with absolute particle size values by comparing the empirical figures derived by it with similar test figures obtained from a sample which had also been measured by one of the more analytical methods.

Such a comparison is given in Fig. 5. On this figure, the ultimate particle size analysis of two typical coating clays are shown together with the centrifugal test values obtained on them. It will be noted that the C.P.S. values correlate with the variation in particle size shown by the particle size curves.

While the test gives only empirical values ,and does not measure particle sizes directly in microns, it has nonetheless proved sufficiently accurate and rapid for control purposes during the 10-year period in which it has been used.

Brightness

Most clays today are specified as to their "brightness" which is the percent of light reflected by them at a spectral wave band covered by Wratten filter No. 49. (The dominate wave length of this filter is in the vicinity of 458 mu.) The instrument with which the paper trade is most familiar is the General Electric Brightness Meter, which was developed by the Institute of Paper Chemistry. In addition, the Hunter Reflectometer and the Photovolt Reflectometer are used to some extent. The actual operation of these instruments is well known so that it need not be discussed here.

However, the preparation of clay samples for testing calls for considerable attention to technique, if check results are to be obtained.

Care must be taken that the sample is properly pulverized, that it is properly dried and not over dried, and that it is correctly formed into the sample test plaque. Detailed instructions on this test may be had by reference to several clay producers and coaters.

TABLE I.—EFFECT OF COMMINUTION VS. BRIGHTNESS RESULTS

Clay	Brightness Crushed, %	Brightness Pulverized, %
1	81.4	82.1
2	85.5	86.2
3	83.0	84.7
4	84.1	86.2

As an example of the care which must be taken in preparing these test samples, Table I shows the variation in brightness of the same clay when formed for tests under varying degrees of pulverization. This data shows the difference obtained on each of four clays due to differences in degree of comminution. It will be noted that in each case, finer pulverizing produced higher brightness results. To avoid this source of error, care must be taken in performing the brightness test to pulverize all samples alike. A laboratory pulverizer is preferred for this operation.

Another variable in sample preparation is difference in method and degree of compacting. Several methods have been used from time to time, among them being (1) moistening the clay, and forming it into test plaque by drying and cleaning off a smooth surface, and (2) pulverizing the dry clay, and compressing it into a unit for testing.

It has been found that with the first of these methods (forming in the wet state), brightness results may differ from those otherwise obtained as much as 5%, depending upon the degree of particle packing; moreover, the preparation of such plaques is a time-consuming operation.

Also, when the same sample is not subjected to uniform compacting pressures, variations in brightness results are noted. These variations can be as much as 3%—particularly with the more colloidal clays.

Best results are generally obtained when the clay

FIG. 6

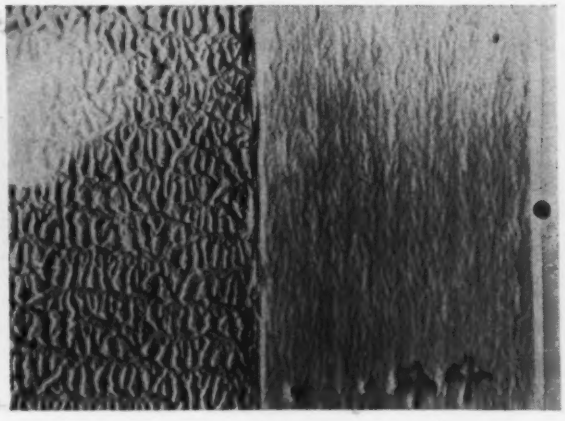

FIG. 7

is tested at a moisture content of not over 2 to 3%, and when it is formed into a plaque under a uniform presure of approximately 30 p.s.i.

Equipment for the plaque preparation is shown in Fig. 6. It consists of a platform scale, several brass tubes having a diameter of about 1½ inches and a plunger of such size that it may easily slide into these tubes. The tube is placed on a glass plate which in turn rests on the scale platform, and is filled about one-third full of pulverized clay. The plunger is then allowed to slip gently onto this clay under its own weight and is forced down by hand to give a scale reading of 60 pounds. Behind the scale in this figure is a finished placque ready for measurement.

Viscosity

Contributing more than most other factors to the appearance and structure of the coated sheet is the way the color flows under the action of the coating mechanism. To try to control this, the viscosity of the clays is measured.

Flow properties—thixotropy, dilatancy and the like—can cause some weird effects with coating application. Pattern and defective transfer are two of the major troubles.

A good example of the coating result obtained with colors of different flow properties is shown in Fig. 7 which is a photomicrograph of a sheet of paper coated at the same instant, on one side with a dilantant casein color, and on the other edge with a thixotropic starch color. (Both colors had the same solids content, and were made down alike except for type of adhesive.) The "Chinese hieroglyphics" are the result of the dilatant action when the rolls of the experimental coater came into contact with the coating. The regular pattern of "chatter marks" is caused by the momentary dilatant "setting up" in the nip, followed by the subsequent release as the color began to flow after the momentary rest.

On the other hand the complete difference in appearance of the coating applied from the thixotropic color will be noted.

Probably no characteristic of coating suspensions is receiving so much attention currently as is viscosity. The present trend toward high-solids coating colors has brought forcibly to the attention of coaters and clay producers alike the necessity for viscosity testing to ensure the uniformity of clay shipments.

Early tests generally involved the preparation of a complete coating "color" on which the viscosity measurements were made.

But, in order to determine variation in coating-color flow characteristics due to clay changes, the tests should be so designed that all nonclay variables are eliminated. Quality of commercial adhesives varies lot to lot sufficiently, and laboratory methods for preparing solutions from them for testing viscosity of clays are sufficiently nonuniform, that variations in flow properties, greater than those of the clays themselves, are introduced. Further, the clay producer is faced with a multiplicity of types of adhesive, color formulation, and coating methods among his various customers, and cannot perform a sufficiently wide variety of tests to meet all requirements.

Some years ago, several coaters and clay producers faced with these conditions began development of a viscosity test based on the measurement of viscosity of an accurately prepared aqueous suspension of clay containing 70% solids. Experience with this test has shown that it correlates with mill practice. However, like any test of the type, it may be necessary to adapt it to conditions peculiar to each coating operation.

To the clay producer it offers a control test which is reproducible, since variations in factors other than clay characteristics are eliminated.

In the originally designed test, efflux type viscometers have been used as the measuring device. These cups have been of various designs, but essentially they are the same, working on the principle of timing the period necessary for a cup of specified size and shape, full of test slurry, to empty itself through an orifice in its bottom.

Two cups exemplifying this type of instrument are shown in Fig 8. Recent studies have indicated that these instruments leave much to be desired in their usefulness.

They are subject to error due to incomplete emptying; they give no measure of thixotropic characteristics of the test slurry; and they become inoperative when viscosity values exceed, say 500 centipoises.

Other instruments have offered more promise. These can be generally described as the rotational viscometers, exemplified by the MacMichael, the Brookfield, the Stormer, and the new instruments described by Green *(7)*, Garrison *(8)*, and others. Among these, one of the most convenient and effective instruments is the Brookfield. Figure 9 shows this instrument, with its complement of spindles. It is of such design that accurately controlled, rotational speeds can be used, thus providing a means for testing the viscosity of any system at several different rates of shear.

In this feature the Brookfield differs from many

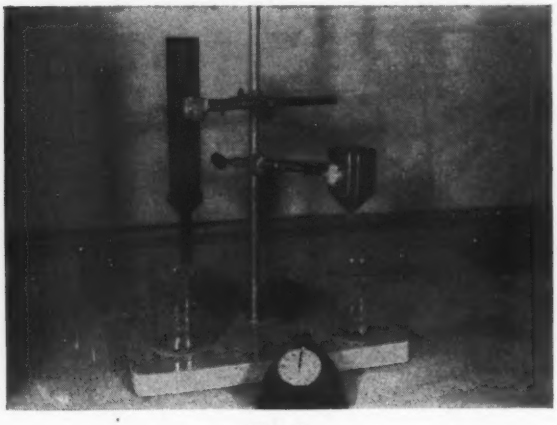

FIG. 8

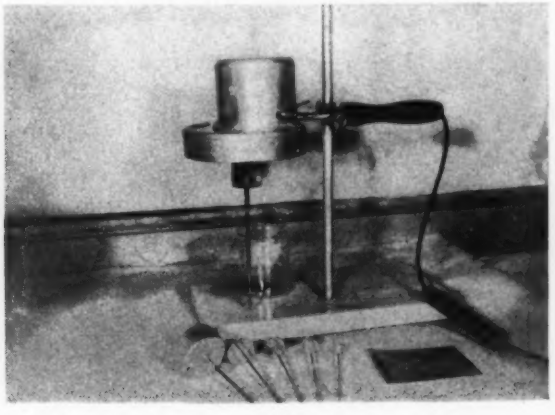

FIG. 9

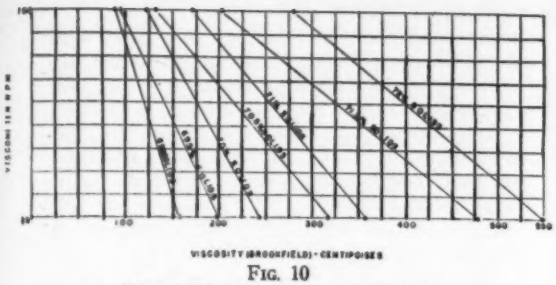

FIG. 10
Effect Solids Concentration on Viscosity

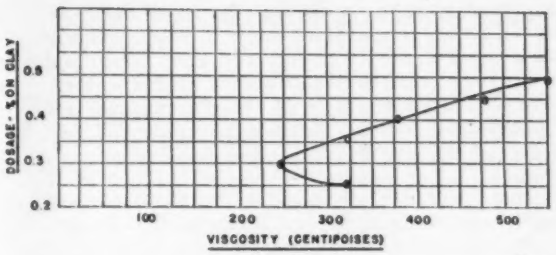

FIG. 12
Dispersant Dosage vs. Viscosity

other commonly used instruments of this type and provides a method by which thixotropic and dilatant conditions of the test sample may be studied. It is possible, by dividing the viscosity of the clay suspension at the lowest rate of shear by the viscosity at the highest rate of shear, to arrive at an index to the degree of thixotropy which will give some indication as to the performance which may be expected of the coating color.

However, no presently available instrument capable of developing the rates of shear encountered in some coating machines is known. In view of this, it is current practice to develop data as to the flow properties of clays and coating colors and then attempt to correlate them with actual mill operation.

Moisture

Differences in free moisture content between shipments of clay can be of practical importance to the coater. In most instances when the moisture content of the clay is the subject of complaint by the paper mills, the complaint is based on difficulties in handling the clay. It it is too wet, some handling equipment may not function properly; if it is too dry, the clay may dust badly. Important as these considerations are, the coater is faced with a factor of even greater importance. Unless he corrects for the free moisture content of this clay when preparing his coating formulation, variations in solids content sufficient to exert a material influence on coating-color viscosity can occur. The difference in moisture content between 6 and 10% can cause a variation of nearly 3% in solids content in a high-solids coating color when no allowance is made for the free water. The effect of these variations is shown in Fig. 10.

In this figure are shown viscosity curves on aqueous clay suspensions made from identically the same clay and varying only in solids content. Their range, reading from left to right, is from 72% solids to 69% solids and each line represents a change of 0.5% solids in the test slurry. It will be noted that the viscosity of the 69%-solids slip at 10 r.p.m is approximately 170 centipoises, while that of the 72%-solids slip is 550 centipoises. When it is realized that this change in viscosity is due to a solids-content difference of only 3% and that such a difference may occur from the use of coating clay without proper correction for free moisture content, it is realized that tests such as the moisture test become of prime importance.

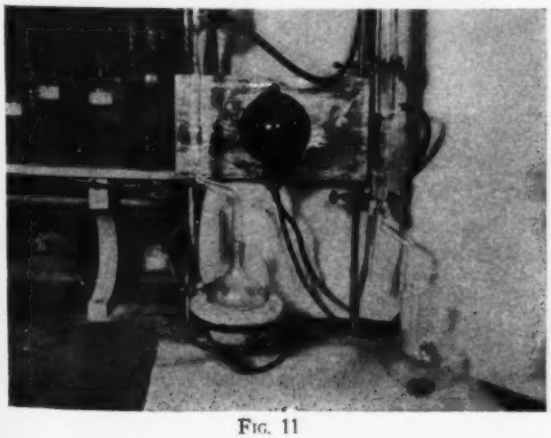

FIG. 11

The time-honored method of determining moisture content of clay is to dry it and determine the moisture by difference. This method, when properly carried out, can be quite accurate. However, the differential determination of moisture requires that careful drying of the sample be accomplished. The time necessary for completely drying a sample varies. Time requirement is due to the physical condition of the clay sample under test; that is, whether the sample is in lump or pulverized form and, of course, whether the sample is of relatively high or low moisture. It is improbable that complete drying of a clay sample in the moisture range of normal coating clay can be done in much less than 6 or 8 hours. It is preferable that the sample be dried for 24 hours in order to guarantee complete removal of free moisture.

One caution is necessary. Kaolin, when heated much above 110°C. for long periods may begin to lose some of its combined water. Such decomposition would, of course, be dangerous, since it might affect the accuracy of the moisture determination.

Another method for determining moisture of clays has been successfully applied by several laboratories. This is the method generally referred to as the Stark-Dean moisture-test, or the toluene-distillation method. As used in the determination of clay moisture, this test is only an adaptation of the method outlined in TAPPI Specification T3m-44 for the determination of moisture in wood chips and sawdust *(9)*. In order to make the test easier to carry out, our laboratory has had constructed special Stark-Dean distillation traps which are fitted with standard-taper, ground-glass joints (Fig. 11). These traps fit into the flask and onto the condenser, which are both simlarly equipped with standard-taper joints. The use of this all-glass apparatus eliminates the trouble due to leakage of cork stoppers and swelling of rubber stoppers when in contact with the toluene fumes.

Usually a moisture determination will take no longer than 1 hour. The rapidity with which it can be made by the toluene method makes use of that method attractive to the operator who needs test results quickly. As to its accuracy, the toluene method has been found to be equally as good as the drying method, when careful attention is given to technique.

Reagent or Dispersant Requirement

In preparing clays for coating, the paper mill generally disperses the clay in water at some definite solids concentration. To do this they make use of one or more of several chemicals which have the property of deflocculating the clay, such as tetrasodium pyrophosphate, sodium hexametaphosphate ("Calgon"), sodium silicate, soda ash, and ammonium hydroxide.

Generally, it has been assumed that clays disperse at some rather definite pH value or chemical dosage. Actually, the dosage of chemical necessary for optimum dispersion of clays may vary somewhat from shipment to shipment. While this variation may not be very great, percentagewise, the effect of these fractional percentages of chemical on the flow properties of a kaolin suspension may be very marked.

The most practical method for determining the correct reagent dosage appears to be the viscometric method which has been in use by some coaters and clay producers for several years. The method generally consists of preparing a kaolin suspension at relatively high solids content, say 50 to 70% solids, and treating it with successive increments of the dispersing chemical. After each increment, the viscosity is measured, and the procedure continued until a point of minimum viscosity has been established. It has been found that when Calgon is used as the dispersing agent, the required dosage for clays of the low viscosity range is about 0.3 to 0.35% on the basis of dry clay.

When the viscosity of a clay is specified and tested according to the aqueous suspension test mentioned earlier, that test may be run in such manner that both the flow-property characteristics and the dispersant requirement may be studied together.

In Fig. 12 a curve is shown with viscosity plotted against dosage or reagent. This curve is developed from data giving the viscosity at 10 r.p.m., as measured by the Brookfield instrument, under varying conditions of reagent dosage. It will be seen from this curve that a minimum viscosity for the particular sample was established at 0.30% dispersant and that dosages smaller than this did not reduce the viscosity, while larger dosages increased the viscosity above the minimum value.

Miscellaneous Tests

In addition to the above-described tests which are of major importance, there are additional tests which are generally made on coating clays since they do have some bearing on paper mill use. Among these tests are pH, screen residue, color, acidity, and soluble-salt content.

The measurement of pH is preferably done with one of the electronic pH meters such as the Beckman, Leeds & Northrup, or Macbeth machines. It is preferable to use a glass electrode since other electrodes, such as antimony or platinum, are subject to contamination and error. Colorimetric methods generally fail since most coating clays contain residual chemicals which reduce the indicator. The test is performed by measuring the pH of a 20% suspension of the clay made up in distilled water.

While the content of grit in modern coating clays is extremely low, as a result of the fractionation process under which they are made, it is generally desired to check the percentage of nonclay materials present. In determining the grit content, the clay is broken down by agitation and deflocculation and poured through screens. The grit is washed free from clay and weighed, reporting the percentage grit on 200-mesh. It may be of interest to know that clay producers' specifications on coating clays limit the grit content to generally not higher than 0.02% on 200-mesh.

In addition to the brightness measurement, it is sometimes desirable to observe the color of the clay. For the clay producer and the coater this can only be a visual test. A convenient method for such observation is to prepare the clay into a paste with water and make a smear on a piece of glass. A similar smear is made in such manner as to contact the first, using a clay of acceptable color. The two colors are then observed by viewing through the glass. If there is no difference in the color, the line of contact will not be noticeable.

Often, the paper coater experiences some difficulty in dispersing a particular clay. Further, he may find that the clay, apparently, produces more viscous coatings than he would normally expect. This may be due to a higher acidity or soluble-salt content. In such cases, the addition of sufficient alkaline dispersant will usually correct the difficulty. Such variations of acidic material content may be readily checked. The acidity of clays is determined by titrating a suspension of the clay with $N/10$ sodium hydroxide, using phenolphthalein as indicator. The acidity value is reported as the number of milliliters of caustic necessary for neutralization of a specified amount of clay.

The soluble-salt content of the clay can be determined by one of two methods. A water extract of

FIG. 13

FIG. 14

the clay may be made and the salts obtained by evaporation, weighing the residue to determine the percentage on the clay. The second method is indirect, and comprises a determination of the specific resistance of a definite water extract of the clay, using one of the ordinary conductivity bridges as the measuring instrument. This does not give a direct result in percentage but may yield an index to the difference between satisfactory and unsatisfactory clays.

HAND SHEETS.

For direct comparison of gloss, color, and hiding power of clays the producer will prepare hand sheets, using the test samples in a standard coating formulation. This color may be applied to the sheet in various ways, but generally the most satisfactory method is the use of some type of blade applicator.

It is important that when such direct comparisons are to be made, care be taken to apply coatings which have the same film thickness and the same degree of make-down. With high-solids, it has been found convenient to use a small sigma-blade mixer such as is shown in Fig. 13.

The coating can be applied by use of the Bird film applicator which is shown in Fig. 14.

It is convenient to use a vacuum plate as a means of holding the paper sheet firmly and flat. With this instrument, one or more colors may be drawn down in such manner that direct comparison can be made between the films. In evaluating the characteristics of these films, it must be remembered that the more viscous coating color will apply a heavier coat than will those of lower viscosity. This heavier coating can often mask the effects of gloss and hiding power and must be taken into account when using this method of comparing clays.

It appears that an applicator having a clearance of about 0.003 inch is to be preferred, since this applicator will apply a sufficiently heavy coat to cover adequately any paper irregularities.

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   Lyons, S. C., *Paper Trade J.* 106, No. 26: 102-103 (June 30, 1939).
2. Casagrande, A., Hydrometer for Determination of Fineness Distribution of Soils. Julius Springer, Berlin, 1934.
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4. Speil, S., and Norton, F. H., Measurement of Particle Size in Clays. *J. Amer. Ceramic Soc.* 21, 3: 89-97 (1938).
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8. Garrison, Allen D., and Ten Brink, K. C., A Study of Some Phases of Chemical Control in Clay Suspensions, Amer. Inst. of Mining and Met. Engineers, Tech. Pub. No. 1124.
9. TAPPI Specifications, T 3 m-44.

TAPPI Lake States Section Meets in Appleton

The Lake States Section of TAPPI held its first dinner meeting of the year on Tuesday, October 14, 1947 at 6:30 p.m. in the American Legion Club House, Appleton, Wisconsin.

C. J. West, Jr., Chairman of the section, welcomed the members and guests and introduced the new officers. He then introduced the speaker of the evening, Dr. Roy P. Whitney, Research Associate of The Institute of Paper Chemistry. Dr. Whitney's subject was "Process Development in Pilot Scale and Full Scale Equipment." Dr. Whitney discussed the relationship between fundamental research, process development, plant design and construction, and production.

Stock Preparation Discussed at New England TAPPI Meeting

A large group turned out for the first meeting of the New England Section of the Technical Association of the Pulp and Paper Industry at which Harry K. Williamson, consultant, was speaker. The dinner was held at the Roger Smith Hotel in Holyoke, Mass., on Friday evening, October 17, 1947.

As a result of a canvass of the members of the section, it was announced that all meetings of the TAPPI New England Section will be held on the third Friday of the month as has been customary.

The Chairman, Chester H. Child of the Merrimac Paper Co., introduced the guests and the speaker. The group observed the memory of W. E. Brawn, the President of the Technical Association, who passed on July 17, 1946 by a standing tribute.

Harry K. Williamson who is widely known in the trade gave a very interesting talk on stock preparation on the basis of his many years experience. He emphasized that the term "hydration" is a misnomer and that the relationship of water with cellulose fibers has still to be defined. Water in combination with fibers exists in two phases, that is, there is water that can not be removed by mechanical means and must be removed by evaporation, and water that flows from the stock or can be removed by the action of presses. There is some question as to the means required to produce "hydration" and the effect on fiber quality of such property. It is known that the purer the cellulose the harder it is to treat and that "hydration" does not necessarily imply increased as it may only effect formation properties.

Mr. Williamson stated that the fiber strength properties developed by the beaters, jordans, refiners, etc., are directly related to work done. This he prefers to indicate by inch bar strokes per horse power time. His experience has been that unless the stock is treated by such means as to cause a frictional slippage blow on the fiber by the mechanical unit, there is no change in fiber characteristics as measured by bursting strength or tear. Freeness cannot be considered as a measure of the development of ultimate fiber strength as it is influenced by such factors as length of fiber and the water relationship which causes free and slow stock. It is readily apparent that one cannot obtain strength characteristics in a stock other than that which it possesses. To obtain the maximum properties of each type of fiber in a given sheet, each type should be segregated for specific treatment rather than processing several types in mixture. A blend can be made of the separate stocks to obtain the desired sheet, the end use of which will determine the amount of work that needs to be done on the fibers.

In Mr. Williamson's opinion, the beater gives the stock an opportunity to regain its elasticity between applications of work by the beater bars and bedplate which accounts for the differences in fibers treated in the beater and those treated in the jordan or similar equipment. This action is especially important in rag stock which depends on fibrillation as well as hydration for its ultimate qualities.

In summing up, it was stated that the temperature of the stock from the processing unit should not be in excess of 135°F., that the presence of water without the application of work will aid formation but not sheet strength, and that to develop strength, mechanical action must be provided in excess of that required to circulate the stock.

United States Patents on Papermaking
Third Quarter, 1947

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents that do not apply specifically to pulp and paper manufacture.

Copies of any of the following patents can be obtained from the United States Patent Office, Washington 25, D. C., by sending twenty-five cents for each patent desired.

Previous lists of patents for 1947 can be found in PAPER TRADE JOURNAL 124, No. 20:45-46 (May 8, 1947) and 125, No. 3:36, 38, 40 (July 17, 1947).

July 1, 1947

2,423,080. Bag closing machine. Daniel Belcher and Frank R. Linda, assignors to Bemis Bro. Bag Co., Minneapojis, Minn. Filed Nov. 10, 1944. 21 claims .(Cl. 112-11).

2,423,097. Beater for disintegrating paper containing resin. Michael Goehler, Frank H. Reimer, and Eugene F. Davis, assignors to American Cyanamid Company, New York, N. Y. Filed Feb. 5, 1945. 2 claims. (Cl. 92-22). A beater is described for the recovery of wet-strength papers containing melamine resins. Means are provided for the introduction of high-pressure steam into the beater in the space between the upper surface of the back fall and the beater roll.

2,423,185. Process for the manufacture of coated and impregnated materials. Wolfgang Gündel and Ernst Götte, assignors to The Hydronapthene Corporation, Wilmington, Del. Filed July 3, 1940. 15 claims. (Cl. 117-161). Material is coated and impregnated with an aqueous solution at 50° C. of a water-soluble salt of a basic aminealdehyde type resin composed of the condensation product of formaldehyde with dicyanodiamide and a preformed mineral acid salt of guanylurea.

2,423,187. Bag making machine. Gordon A. Haugh, assignor to Haugh's Products Limited, Toronto, Canada. Filed Jan. 11, 1943. 4 claims. (Cl. 93-19).

2,423,214. Foam prevention. Sidney D. Wells, assignor to The Institute of Paper Chemistry, Appleton, Wis. Filed March 16, 1944. 1 claim. (Cl. 252-358). A foam-preventing agent is formed from 28 gallons of kerosene, 15 gallons of boiled linseed oil, 48 pounds of mahogany soap, and 100 gallons of water. The emulsion is fed to the stock at a point between the beater and slice.

2,423,232. Fractionation of tall oil. Stephen E. Freeman and Stewart W. Gloyer, assignors to Pittsburgh Pate Glass Company, Allegheny County, Pa. Filed Dec. 2, 1945. 17 claims. (Cl. 260-97.5). Tal oil is partially esterified with an aliphatic alcohol or a glycol and the rosin acids are separated by means of furfural or other polar solvent from a hydrocarbon solution of the esterification product.

2,423,236. Method of treating tall oil. James Harwood and Evans F. Binkerd, assignors to Armour and Company, Chicago, Ill. Filed Feb. 17, 1944. 6 claims. (Cl. 260-97.5). Tall oil is distilled with a small quantity of an alkali and the fatty acid fraction is hydrogenated over Raney nickel; alternately, the distilled tall oil may be hydrogenated in the presence of a small quantity of an alkali.

2,423,294. Flexible waterproof material and its production. Edward H. Colesworthy, Atlanta, Ga. Filed Nov. 12, 1941. 2 claims. (Cl. 154-50). A loosely woven fabric is inserted between longitudinally stretched crinkled paper sheets and the combination adhesively adhered, with asphalt or other adhesive.

2,423,314. Agglomeration by sulfonated reagents in magnetic recovery of iron ores. Earl C. Herkenhoff, assignor to American Cyanamid Company, New York, N. Y. Filed June 1, 1945. 7 claims. (Cl. 209-8). In the concentration of oxidized iron mineral values, sulphonated tall oil may be used in the first step as an agglomerating agent.

2,423,332. Shipping carton for bottles. Albert A. Mayer, assignor to John F. Trommer, Inc., Brooklyn, N. Y. Filed Feb. 20, 1945. 1 claim. (Cl. 229-15).

July 8, 1947

2,423,442. Drum screen. Frank Dustan, assignor to National Lead Company, New York. N. Y. Filed Feb. 28, 1945. 3 claims. (Cl. 92-35). Thin stainless steel plates are used for a drum screen cylinder.

2,423,469. Chemically prepared wood pulp product and process for producing the same. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed May 3, 1944. 9 claims. (Cl. 260-212). A wood pulp containing not more than 0.15% of natural ether-extractable matter has incorporated therein 0.01 to 0.25% of the reaction product of ethylene oxide with abietyl alcohol to its dihydro, tetrahydro, or dehydro deriv. Viscose prepared from such pulp is free of turbidity and has good filtration properties.

2,423,555. Coated paper product. Clarence D. Ender, assignor to Hercules Powder Company, Wilmington, Del. Filed April 24, 1944. 2 claims. (Cl. 117-111). The coating contains 55-75% chlorinated rubber, 20-36% plasticizer, 2-4% wax, and 10-20% resin. It can be applied to paper at temperatures between 20 and 35° C.

2,423,556. Hygroscopic liquid composition and the process of softening paper with said composition and the process of softening paper with said composition. Richard Feibelmann, assignor to Heyden Chemical Corporation, New York, N. Y. Filed April 17, 1943. 6 claims. (Cl. 106-287). A liquid composition suitable as a substitute for glycerol consists of two to six moles of potassium formate and three moles of urea with at least 10% (by weight) of water. Paper impregnated with this compound has a higree of non-inflammability, softness, and pliability.

2,423,704. Fabric abrasion tester. Robert L. Hood, assignor to American Cyanamid Company, New York, N. Y. Filed Jan. 19, 1945. 1 claim. (Cl. 73-7). An abrasion tester of the turntable type is equipped with an automatic cutoff which stops the tester when the test specimen fails.

2,423,707. Fabric or gauze of uniformly oxidized cellulose. William O. Kenyon and Cornelius C. Unruh, assignors to Eastman Kodak Company, Rochester, N. Y. Filed March 2, 1945. 6 claims. (Cl. 139-426). Surgical fabric is formed of uniformly oxidized cellulose fibers.

2,423,724. Plant propagating pot and method of making same. Floyd G. Paxton, Riverside, Calif. Filed Jan. 1, 1945. 5 claims. (Cl. 47-37). A paper plant propagating pot.

2,423,756. Molded fiber article. Merle P. Chaplin, South Portland, Maine. Filed Dec. 17, 1943. 9 claims. (Cl. 229-28). A moldere fiber egg carton.

2,423,768. Apparatus for coating flexible webs. Lindsay O. Goff, assignor to S. D. Warren Company, Boston, Mass. Filed Jan. 13, 1943. 7 claims. (Cl. 91-18). An air brush is designed to prevent fluttering of the unsupported web when the air jet is directed by it against the coated surface of the web.

2,423,804. Method of making lined cartons. Harry F. Waters, New York, N. Y. Filed May 11, 1942. 4 claims. (Cl. 93-36.01). A method of converting sheet material having a fusible inner surface into a hermetically sealed package.

July 15, 1947

2,423,828. Papermaker's felt. Zephir J. Chagnon, assignor to Albany Felt Company, Albany, N. Y. Filed June 4, 1945. 14 claims. (Cl. 139-384). The filler yarns of the felt have fibers of wool and a synthetic resin (nylon) exposed on the surface thereof.

2,423,942. Collapsible fiberboard container. Joseph C. Lang, assignor to Bocjil Corporation, Pittsburgh, Pa. Filed June 7, 1943. 1 claim. (Cl. 229-23). A folding box or crate suitable for egg cases, fruit boxes, and the like.

2,423,965. Apparatus for forming end closures in paper containers. John Coyle, assignor to Continental Can Company, Inc., New York, N. Y. Filed Jan. 14, 1944. 1 claim. (Cl 93-55.1). An apparatus is proposed for holding the paper container body and the end closure surfaces together during the period required for setting of the adhesive.

2,424,074. Tall oil ester resins and their production. Franklin A. Bent and Elbert A. Peterson, assignors to Shell Development Company, San Francisco Calif. Filed Oct. 28, 1943. 11 claims. (Cl. 260-23). Tall oil ester resins are produced by heating a polymeric carboxylic acid ester of an alphatic unsaturated monohydric alcohol containing an olefinic linkage between the beta-and gamma-carbon stons with tall oil; the products are suitable for sizing and impregnating agents.

2,424,110. Heat sealing with partially hydrolyzed polyvinyl acetate. George O. Morrison and Thomas P. G. Shaw, assignors to Shawinigan Chemicals Limited, Montreal, Canada. Filed Nov. 9, 1942. 6 claims. (Cl. 154-138). A partially hydrolyzed polyvinyl acetate is used as a heat-sealing agent.

2,424,177. Tensile testing machine. Walter D. Lawshe and Winton A. Gardiner, assignors to Monsanto Chemical Company, Seattle, Wash. Filed Dec. 27, 1944. 9 claims. (Cl. 73-97).

2,424,189. Pulp molding die. Walter H. Randall, assignor to The Canal National Bank of Portland and William B. Nulty, Portland, Maine, as trustees. Filed Nov. 11, 1942. 5 claims. (Cl. 92-54). The patent covers the molding of a carton suitable for packaging fragile objects such as eggs.

July 22, 1947

2,424,277. Shopper's bag. Charles H. Klein, Amberley, Ohio. Filed Sept. 27, 1944. 7 claims. (Cl. 229-52).

2,424,406. Method and apparatus for tight-wrap packaging. Donald E. Marshall and Francis R. Clark, assignors to Colgate-Palmolive-Peet Company, Jersey City, N. J. Filed Nov. 25, 1941. 13 claims. (Cl. 93-2).

2,424,508. Decalcomania assembly and method of making the same. Watson A. Simmonds, Chicago, Ill. Filed Feb. 15, 1945. 10 claims. (Cl. 41-33). A decalcomania assembly for the application of revenue stamps.

July 29, 1947

2,424,540. Apparatus for making convolute wound tubing from sheet material. Boris Bogoslowsky, Jackson Heights, N. Y. Filed Oct. 27, 1944. 12 claims. (Cl. 93-81). Wound tubing is prepared from thermoplastic or heat-sealing materials or from sheets of nonthermoplastic material coated or laminated with thermoplastic or heat-sealing materials.

2,424,546. Pregummed hanging material. Jordan V. Bauer and Rudolph A. Selner, assignors to Stein, Hall & Co., Inc., Chicago, Ill. Filed Sept. 6, 1943. 9 claims. (Cl. 117-122). The adhesive base is a hydrolyzed cereal flour having a reducing sugar content of at least 5% and not more than about 26% (by weight) of the dried coating calculated as dextrose; the moistened coating has retack properties and slip characteristics.

2,424,552. Froth flotation of nonmetallic minerals. Julius Bruce Clemmer and Carl Rampacek, Tuscaloosa, Ala. Filed May 1, 1945. 8 claims. (Cl. 209-166). In the beneficitation of nonmetallic minerals, such as calcite, barite, and the like, tall oil may be used as a collecting agent.

2,424,619. Device for and method of measuring volume of wood in stacks. Cecil H. Keepers, assignor to Nekoosa-Edwards Paper Company, Port Edwards, Wis. Filed March 4, 1943. 3 claims. (Cl. 33-125). The patent covers the photographic method described in Paper Tade J. 117, no. 9:23(Aug. 26, 1943).

2,424,638. Coated fibrous material. Purdum M. Snyder, assignor to H. H. Robertson Company, Pittsburgh, Pa. Filed Sept. 24, 1942. 3 claims. (Cl. 154-50). A waterproofing and laminating agent is produced by blowing with air the propane extract obtained in the refining of lubricating oils.

2,424,642. Slide box with slidable latch. Harold G. Towne and Lester M. Peterson, assignors to Dennison Manufacturing Company, Framingham, Mass. Filed April 6, 1946. 13 claims. (Cl. 206-1.5).

2,424,679. Apparatus for disseminating materials in liquids. Edwin Cowles, assignor to The Cowles Company, Princeton, N. J. Filed Nov. 18, 1942. 4 claims. (Cl. 259-96). An imperforate impeller has a multiplicity of vanes for the treatment of paper pulp, defiberizing waste paper, and the like.

2,424,680. Paper bib. Mary R. Doyle, Danville, Calif. Filed Jan. 11, 1945. 5 claims. (Cl. 2-49).

2,424,716. Foldable cardboard box. Ralph F. Smart, St. Louis, Mo. Filed June 20, 1945. 3 claims. (Cl. 229-32).

2,424,726. Pulp beater and selector. Harold D. Wells, Glens Falls, N. Y. Filed Dec. 28, 1944. 9 claims. (Cl. 92-23). An impeller with circumferentially spaced arms is so arranged in a tank that the pulp is rubbed and brushed against a screen plate, defibering and hydrating the pulp.

2,424,797. Process for the purification of cellulosic material. Ferri Casciani, assignor to Niagara Falls, N. Y. Filed Dec. 18, 1943. 7 claims. (Cl. 8-105). A method of bleaching sulfate pulp with chlorine and hypochlorite.

2,424,831. Composition for waterproofing and fireproofing textile material and the treated material. Joseph H. Klaber, assignor to Quaker Chemical Products Corporation, Conshohocken, Pa. Filed Nov. 24, 1942. 13 claims. (Cl. 106-15). A fire-retarding agent may consist of zinc chloride, borax, acetic acid, and water; the water-repelling agent is an emulsion of paraffin and aluminum acetate.

2,424,856. Calender. Carl F. Schnuck, assignor to Farrel-Birmingham Company, Inc., Ansonia, Conn. Filed May 10, 1945. 10 claims. (Cl. 18-2. A roll-adjusting means for calenders.

August 5, 1947

2,424,996. Pressure-sensitive adhesive tapes. Vlon N. Morris, assignor to Industrial Tape Corporation, North Brunswick, N. J. Filed July 15, 1942. 7 claims. (Cl. 117-80). A primer coating for an adhesive tape consists of a reclaimed rubber dispersion containing from 15 to 20% solids or a mixture of reclaimed rubber and a resin dispersion.

2,425,024. Apparatus for producing pulp from cellulosic material. James B. Beveridge, Richard D. Kehoe, and Alphonse Surino, assignors to Paper and Industrial Appliances, Inc., New York, N. Y. Filed Nov. 21, 1942. 1 claim. (Cl. 92-6). A pulp defibrating mill.

2,425,034. Variable capacity folding box. Jacob Fuehrer, Moodus, Conn. Filed June 8, 1944. 2 claims. (Cl. 229-41). A collapsible box for holding foods and other materials.

2,425,043. Container. George A. Moore, New York, N. Y. Filed Feb. 12, 1945. 7 claims. (Cl. 229-14). This is a continuation of U. S. patent 2,382,573(Aug. 14, 1945).

2,425,062. Container sealing apparatus. Warren C. Johnson, assignor to Quaker Oats Company, Chicago, Ill. Filed June 26, 1943. 6 claims. (Cl. 93-6).

2,425,064. Carton sealing apparatus. Douglas Kirk, assignor to Quaker Oats Company, Chicago, Ill. Filed June 26, 1943. 1 claim. (Cl. 93-6). Machine for heat sealing cartons.

2,425,067. Apparatus for sealing containers. Roy E. Lowey and John L. Ferguson, assignors to Container Corporation of America, Chicago, Ill. Filed Aug. 1, 1942. 4 claims. (Cl. 93-7). Apparatus for top-sealing containers having a thermoplastic sealing compound on the top closure flaps.

2,425,140. Bottle carrier carton. William H. Allen, assignor to Empire Box Corporation, Garfield, N. J. Filed March 26, 1945. 24 claims. (Cl. 224-45).

2,425,142. Measuring and dispensing container. John T. Brubaker, Luray, Va. Filed April 15, 1944. 16 claims. (Cl. 222-455).

2,425,207. Creping corrugated papers. William W. Rowe, assignor to Cincinnati Industries, Inc., Cincinnati, Ohio. Filed Feb. 19, 1940. 6 claims. (Cl. 154-30). This is a continuation of U. S. patent 2,190,680 (Feb. 20, 1940) and covers the use of an adhesive between the corrugating surface and the paper so that, as each corrugation is formed, it is held by the adhesive at least until the completion of the formation of the adjacent corrugations.

2,425,210. Box wrapping system. John S. Stokes, assignor to Stokes and Smith Company, Philadelphia, Pa. Filed May 14, 1942. 15 claims. (Cl. 93-54.2).

2,425,230. Compartmented collapsible fiberboard container Harley S. Cann, assignor to The Martin Brothers Box Co., Toledo, Ohio. Filed June 16, 1943. 8 claims. (Cl. 229-15). A container and shipping crate construction.

2,425,231. Method of coating paper and composition therefor. Gilbert K. Dickerman and Robert W. Riley, assignors to Consolidated Water Power Paper Company, Wisconsin Rapids, Wis. Filed Jan. 24, 1944. 13 claims. A coating composition suitable for use in the Massey machine-coating process comprises an aqueous dispersion of a mineral pigment, a deflocculating agent, 60 to 300 parts of enzyme-converted starch adhesive (based on 970 parts of bone-dry pigment) and 2 to 10 parts of ammonium stearate (based on 100 parts of starch).

August 12, 1947

2,425,301. Packaging and method and means for forming the same. George R. Browner, assignor to The Mead Corporation, Chillicothe, Ohio. Filed Oct. 19, 1942. 13 claims. (Cl. 100-14). A paper board combination for baling textile materials.

2,425,335. Fiber processing apparatus. Hjalmar S. Messing, New York, N. Y., and Clarence L. Durkee, Wausau, Wis. Filed Oct. 11, 1943. 4 claims. (Cl. 92-7). A continuous digester, especially suitable for the semichemical process, comprises as the principal element a continuous closed loop of conduit disposed in a vertical plane. The method of circulating the chips through the cooking liquor is described in detail.

2,425,496. Winder drive. Ransom Tyler, assignor to The Oilgear Company, Milwaukee, Wis. Filed Oct. 16, 1944. 7 claims. (Cl. 242-75). A hydraulic drive for winders.

2,425,536. Shipping and display box. George J. Hofeldt and Charles W. Lofgren, assignors to Sanford Ink Company, Chicago, Ill. Filed Nov. 10, 1944. 2 claims. (Cl. 206-44).

2,425,564. Carrier for bottles and the like. Jacob Ring, Brighton, Mass. Filed April 5, 1946. 1 claim. (Cl. 224-48).

2,425,642. Sealable carton for frozen foods. William A. Ringler, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed May 20, 1944. 7 claims. (Cl. 229-14).

2,425,653. Decalcomania paper. John W. Stewart, assignor to The Cuneo Press, Inc., Chicago, Ill. Filed May 24, 1945. 1

claim. (Cl. 41-33). A noncurling decalcomania paper.

2,425,660. Method and apparatus for making paper-covered veneer. Richard N. Ware, Jr., and Reginald Cannon, assignors to Chicago Mill and Lumber Company, Chicago, Ill. Filed Sept. 19, 1945. 8 claims. (Cl. 154-138). A method of applying a strip of wet paper to undried veneer wood by means of an adhesive and drying the assembly.

2,425,708. Container. Isaac L. Wilcox, assigner to Oswego Falls Corporation, Fulton, N. Y. Filed Aug. 18,1944. 2 claims. (Cl. 229-5.5).

August 19, 1947

2,425.742. Electrosensitive recording blank. Bernard L. Kline, assignor to The Western Union Telegraph Company, New York, N. Y. Filed July 29, 1942. 9 claims. (Cl. 204-2). A conducting paper is coated with an active layer of marking material.

2,425,786. Machine for forming drinking cups. Eugene Conti, Jackson Heights, N. Y., assignor to Herz Manufacturing Corporation. Filed Oct. 26, 1942. 16 claims. (Cl. 93-36.05).

2,425,805. Method of making laminated structures. Frank W. Hyman, New York, N. Y. Filed April 28, 1943. 1 claim. (Cl. 154-50). A hot-melt composition is used for laminating paper or board.

2,425,931. Hydraulic tensile testing machine. Alexander J. Golick, assignor to Monsanto Chemical Company, Seattle, Wash. Filed Oct. 19, 1945. 5 claims. (Cl. 73-97).

2,426,043. Method of an apparatus for applying pigment and other materials to paper. Gerald D. Muggleton, assignor to Combined Locks Paper Co., Combined Locks, Wis. Filed Feb. 16, 1944. 6 claims. (Cl. 92-40). A method of supplying pigments to the dandy roll and then to the paper.

2,426,115. Carton erecting apparatus. George C. Nydegger, Los Angeles, Calif. Filed May 17, 1945. 8 claims. (Cl. 93-49).

August 26, 1947

2,426,159. Method of making paper cups. Cesare Barbieri, assignor to Dixie Cup Company, Chicago, Ill. Filed March 8, 1943. 5 claims. (Cl. 93-36.1). The paper cup carries a latching tab.

2, 426,220. Bituminous composition having increased adhesion to mineral aggregate. James M. Johnson, New York, N. Y., assignor to Nostrip Inc. Filed Sept. 2, 1942. 5 claims. (Cl. 106-123). An improved bituminous bonding material comprises asphalt and the soap from the organic acids derived from tall oil.

2,426,257. Pressure sensitive adhesive and adhesive tape. Paul F. Ziegler, assignor to The Kendall Company, Boston, Mass. Filed Aug. 2, 1940. 1 claim. (Cl. 154-53.5). The adhesive comprises a normally solid aromatic sulfonamide-formaldehyde resin, cellulose acetate, and a nonvolatile liquid toluenesulfonamide plasticizer.

2,426,300. Method and composition for waterproofing. Sidney M. Edelstein, Elizabeth, N. J. Filed April 3, 1944. 7 claims. (Cl. 117-166). A waterproofing composition consists of an emulsion of an aqueous solution of sodium zincate containing an excess of sodium hydroxide and a wax with a melting point above 100°F., which can be precipitated by a soluble aluminum salt.

2,426,462. Decalcomania manufacture. Raymond D. Marksberry, Akron, Ohio, assignor of one third each to Merle Hughey and Raymond G. Lutz. Filed June 7, 1944. 6 claims. (Cl. 41-33). A method in which a temporary support is used for the decalcomania.

2,426,484. Carton construction. James F. Buffenbarger, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed Dec. 18, 1943. 4 claims. (Cl. 224-22).

September 2, 1947

2,426,714. Tube forming machine. Rudolph Sonnenberg, Belvidere, and Irvin L. Young, Chicago, Ill. Filed Jan. 30, 1943. 2 claims. (Cl. 93-55.1). A machine for imposing formations in the end portions of pasteboard tubes.

2,426,783. Method of and container for packing fruit and the like. James A. McCormick, assignor to Fruit and Produce Packing, Incorporated, Indianapolis, Ind. Filed Jan. 22, 1944. 3 claims. (Cl. 229-31).

2,426,797. Liquidproof container. Joseph P. Stein, Los Angeles, Calif. Filed Sept. 3, 1943. 1 claim. (Cl. 229-3.5). A tank for gasoline is made of impregnated paper material.

2,426,856. Dispensing container. Edward C. Berg, assignor to Marshall I. Williamson, New Haven, Conn. Filed Aug. 21, 1943. 9 claims. (Cl. 229-20).

2,426,865. Display container with extensions. Raymond E. Fink, assignor to National Folding Box Company, Incorporated, New Haven, Conn. Filed Feb. 1, 1944. 1 claim. (Cl. 206-44).

2,426,897. Wood pulp screening vat. Samuel T. Orton, Jr., assignor to Union Machine Company, Fitchburg, Mass. Filed Aug. 11, 1944. 5 claims. (Cl. 92-30).

2,426,899. Making collapsible structures. Vincent R. Pantalone, assignor to National Folding Box Company, New Haven, Conn. Filed May 24, 1945. 7 claims. (Cl. 93-1). Method of forming a tray from a blank.

2,426,908. Locking envelope or the like. Thomas E. Walsh, assignor to Cohoes Envelope Company, Inc., Cohoes, N. Y. Filed Nov. 20, 1945. 3 claims. (Cl. 229-77).

2,426,911. Telescopic container. Marshall I. Williamson, assignor to National Folding Box Company, Incorporated, New Haven, Conn. Filed July 17, 1943. 14 claims. (Cl. 229-11).

2,426,923. Method for hydrating paper stock. Edwin Cowles, assignor to The Cowles Company, Princeton, N. J. Filed Dec. 31, 1942. 2 claims. (Cl. 92-22). Process for hydrating paper stock without perceptible cutting or shortening the fibers.

September 9, 1947

2,427,036. Sheet pulp container dryer, etc. Lee M. Wiley, Marion, Ind., assignor of one third each to Julian T. Lett and Reeley B. Wiley. Filed Dec. 1, 1943. 4 claims. (Cl. 34-207). A forced circulation-type oven structure having an endless article conveyor and a heating system.

2,427,138. Fibre container. Arthur L. Hamilton and Russell L. Palmer, assignors to Rheem Manufacturing Company, Richmond, Calif. Filed March 6, 1944. 3 claims. (Cl. 229-5.5). An end wall construction for a container.

2,427,139. Stand and method of making the same. John R. Harris, New York, N. Y. Filed Aug. 29, 1945. 3 claims. (Cl. 248-174). A pyrimidal paper on cardboard stand made from a single blank.

2,427,223. Sheet cutting and delivery means. Lawrence A. Moore, assignor to American Coating Mills, Inc., Elkhart, Ind. Filed Dec. 4, 1944. 41 claims. (Cl. 164-69). Slitting and cutting means for cutting paper into sheets of variable width and length and carrier means for the same.

2,427,328. Pregelatinized waxy starch. Herman H. Schopmeyer and George E. Felton, assignors to American Maize-Products Company, New York, N. Y. Filed July 3, 1942. 1 claim. (Cl. 127-32). Waxy cereal starch is gelatinized by heating in contact with water to the pasting temperature and then dried.

September 16, 1947

2,427,397. Foldable fiberboard egg case. Kenneth C. Ferguson, assignor to Inland Container Corporation, Indianapolis, Ind. Filed Nov. 1, 1943. 2 claims. (Cl. 229-27).

2,427,443. Light-sensitive layer and processes of making and exposing it. Theodore R. Cochran, assignor to A. B. Dick Company, Chicago, Ill. Filed June 4, 1943. 8 claims. (Cl. 95-7). Paper is impregnated with the reaction product of a mixture of sodium molybdate, sodium tungstate, and oxalic acid; it is sensitive to light in the spectral band between 3550 and 3750 A.

2,427,447. Combined stencil sheet and liner. Clarence O. Dicks, Detroit, Mich. Filed Dec. 6, 1943. 1 claim. (Cl. 101-128.2). A stencil sheet of kraft paper is coated with a pressure-sensitive adhesive which, in turn, is covered with a heavy, hard-finished creped paper liner.

2,427,495. Apparatus for producing fiber from vegetable growth materials. Philip G. Deuchler, assignor to Certain-Teed Products Corporation, New York, N. Y. Filed Nov. 22, 1941. 1 claim. (Cl 92-6). This is a modification of the Asplund process for pulping vegetable materials.

2,427,532. Rubber latex extended with an aqueous emulsion of a cracked gasoline distillate polymer resin. John J. Miskel, assignor to Nopco Chemical Company, Harrison, N. J. Filed Sept. 13, 1943. 3 claims. (Cl. 260-8). One part of rubber latex is extended with not more than three parts by weight of an aqueous emulsion containing 15 to 70% by weight of a cracked gasoline distillate polymer resin; the emulsion can be stabilized with solubilized casein.

2,427,562. Cereal starch adhesive. Carl C. Kesler and David Rankin, assignors to Penick & Ford, Ltd., Incorporated, Cedar Rapids, Iowa. Filed Aug. 22, 1942. 9 claims. (Cl. 106-211). A gelatinized cereal starch in an aqueous alkali medium, an amphoteric metal compound for increasing the cohesiveness of the starch, and a water-dispersible aliphatic long chain bipolar organic compound.

2,427,647. Insectproof container laminate. Hans W. Vahlteich, assignor to The Best Foods, Inc., New York, N. Y. Filed Dec. 30, 1944. 2 claims. (Cl. 154-82). A container is covered with a DDT-impregnated paper.

September 23, 1947

2,427,699. Crown closures. Samuel I. Aronovsky, William F. Talburt, and Elbert C. Lathrop, assignors to the Secretary of Agriculture, United States of America. Filed Sept. 18, 1943. 1 claim. (Cl. 215-40). A closure has a seal composed essentially of a proteinaceous material and a plasticizer, and a uniform distribution of minute gas cells and a pithy cellulosic material.

2,427,858. Package. Stig B. Hogdal, Danderyd, Sweden. Filed Aug. 16, 1943. 6 claims. (Cl. 229-14).

2,427,879. Structural product. John A. Robertson, Thomas P. Camp, and Chester N. Kolmodin, assignors to United States Gypsum Company, Chicago, Chicago, Ill. Filed Dec. 22, 1943. 1 claim. (Cl 154-45.9). A laminated wall board structure.

2,427,892. Apparatus for drying webs by

radiant and convection heating. Floyd W. Adams, assignor to Los Angeles Paper Box Factory, Los Angeles, Calif. Filed Oct. 16, 1944. 3 claims. (Cl. 34-159).

2,427,997. Flame resistant fabric material. Clarence B. White, Montclair, N. J. Filed Jan. 7, 1944. 8 claims. (Cl. 117-137). The material is treated with sodium carbonate solution and then with antimony trichloride in an organic solvent.

September 30, 1947

2,428,097. Drier felt seam securing strip and seam formed therewith. John Roslund, assignor to Asten-Hill Mfg. Co., Philadelphia, Pa. Filed Dec. 23, 1941. 6 claims. (Cl. 154-42). The seam consists of a strip having a cement-permeable thin open-mesh fabric core coated on both sides with a solid water- and heat-resistant cement subject to softening upon moistening with a suitable solvent.

2,428,113. Machine for coating paper. William F. Grupe, assignor to John R. Ditmars, New Brunswick, N. J. Filed Nov. 9, 1942. 10 claims. (Cl. 91-33). A smoothing roll which can be adjusted toward and from the coating-applying means.

2,428,266. Cloth and paper bag. Henry S. Daniels, assignor to Union Bag & Paper Corporation, New York, N. Y. Filed Aug. 2, 1944. 6 claims. (Cl. 229-55).

2,428,282. Fire-resistant linoleum product. James W. Kemmler, Yardley, Pa., assignor to Sloane-Blabon. Filed Jan. 29, 1944. 11 claims. (Cl. 260-23). The cement contains oxidized and gelled siccative oil together with from 40 to 70% of chlorinated resin containing from 40 to 70% chlorine.

Second TAPPI Engineering Conference

The Second Engineering Conference sponsored by the Engineering Division of the Technical Association of the Pulp and Paper Industry will be held at the Bellevue-Stratford Hotel in Philadelphia, Pa., on November 3-5, 1947. Mr. J. W. Hemphill of the Johns-Manville Corp. is acting as General Chairman, and with the assistance of J. E. A. Warner, Robert Gair Co., G. H. Pringle, Mead Corp., Milton Jacobs, Charles T. Main, Inc., G. R. Wadleigh, consultant, and A. E. Montgomery, J. O. Ross Engineering Corp., has prepared a program that should be of considerable interest to all pulp and paper mill engineers. Indications are that this meeting will be even more successful than the First Engineering Conference which was held last year in Milwaukee, Wisconsin.

Among the features of this meeting will be a trip to plant of the Pusey & Jones Corp., which has arranged to take the group from Philadelphia to Wilmington on the S. S. Delaware Belle, and visits to J. E. Rhoads & Sons, Downington Manufacturing Co., Brown Instrument Co., Lukens Steel Co., and the Westinghouse Electric plant. In addition to these companies there are numerous other concerns in the Philadelphia area including paper manufacturers that will welcome visitors. Arrangements can be made at the meeting for all who are interested. Because of the full program, it is suggested that those who consider making mill and plant visits plan to stay over November 6th.

Monday, November 3rd

9:30 a. m.—Bellevue-Stratford Hotel. Opening Remarks by W. F. Gillespie, Gaylord Container Corp., Bogalusa, La., and President of the Technical Association of the Pulp and Paper Industry. The TAPPI Engineering Division—Remarks by J. W. Hemphill, Johns-Manville, New York, N. Y., General Chairman.

10:00 a. m.—Mill Design Session. Milton Jacobs, Chas. T. Main, Inc., Boston, Mass., Chairman. 1. Treatment of Surface Water Supplies for Pulp and Paper Mills, by R. R. Adams, J. E. Sirrine & Company, Greenville, S. C. 2. Centralized Planning and Control of Mill Layouts, by C. E. Cass, Marathon Corporation, Menasha, Wis. 3. Reminiscences of the Pulpwood Campaign—A Case Study in Materials Handling, by C. E. Patch, Morton C. Tuttle Company, Boston, Mass.

2:00 p. m.—Drying and Ventilating Session. A. E. Montgomery, J. O. Ross Engineering Corporation, Chicago, Illinois, Chairman. 1. Steam Supply Piping and Control Arrangements for Driers, by C. H. Young, Midwest Fulton Machine Company, Dayton, Ohio. 2. Heating Water With Waste Heat, by L. G. Janett, J. O. Ross Engineering Company, New York, N. Y. 3. Report on Field Investigations on Drying, by the TAPPI Drying and Ventilating Committee.

6:00 p. m.—Reception and Pre-Dinner Get-Together (Courtesy of Downingtown Manufacturing Company).

7:00 p. m.—Dinner (Program to be announced).

Tuesday, November 4th

9:30 a. m.—Aboard the S. S. Delaware Belle. Mill Maintenance and Materials Session. George H. Pringle, Mead Corporation, Chillicothe, Ohio, Chairman. 1. Systematic Operation of Maintenance and Construction Departments, by Lee C. Dryden, Marathon Corporation, Menasha, Wis. 2. Paper Mill Lubrication, by A. I. Sippola, Socony-Vacuum Company, New York, N. Y. 3. Preventive Maintenance, by George Charters, Crown Zellerbach Corporation, Camas, Wash. 4. Installing and Maintaining Flow Meters in Pulp and Paper Mills, by C. H. Barnard, Bailey Meter Company, Cleveland, Ohio. 5. The Suction Roll of Today, by H. C. Merritt, Downingtown Manufacturing Company, Downingtown, Pa.

2:00 p. m.—Arrival at Wilmington, Del. Inspection of paper machinery plant of the Pusey & Jones Corporation. Following this inspection an opportunity will be provided to visit the leather tannery and belt manufacturing plant of J. E. Rhoads & Sons, Inc. in Wilmington.

6:00 p.m.—Party at the Wilmington Shrine Club.

7:00 p. m.—Dinner and Entertainment at the Shrine Club.

Wednesday, November 5th

9:30 a. m.—Bellevue-Stratford Hotel. Steam and Power Session. J. E. A. Warner, Robert Gair Company, New York, N. Y., Chairman. 1. Short Circuit Analysis of a 40000 Kva-2300 v. Power System on a Network Calculator—A Case Study by E. L. Cowan and W. V. Knight, Gaylord Container Corporation, Bogalusa, La. 2. A Fuel Engineering Study of Boiler Installations in the Paper Industry, by J. E. Tobey, Fairmount Coal Bureau, New York, N. Y. 3. Modern Bark Burning—A Case Study, by M. H. Snodgrass, Detroit Stoker Company, Detroit, Michigan. 4. Factors Involved in Design and Selection of Steam Generating Equipment, by W. S. Patterson, Combustion Engineering Company, New York, N. Y.

12:30 p.m.—Luncheon.

2:00 p. m.—Engineering Research and Machine Design Session (Chairman to be announced). 1. Supercalender Roll Deflection and Crown, by J. B. Gough, Mead Corporation, Chillicothe, Ohio. 2. Hydraulic Mounting Technique for Roller Bearings, by A. Stewart Murray, SKF Industries, Inc., Philadelphia, Pa. 3. Engineering Studies in Packings, by H. G. Koch, Johns-Manville Research Corporation, Manville, N. J. 4. The Electrofluid Drive, by Fred Atz, Link-Belt Company, Philadelphia, Pa.

Management Subject of TAPPI Ohio Section Meeting

The Ohio Section of TAPPI held its first meeting of the season at the Manchester Hotel in Middletown, Ohio on Tuesday, October 14. After a dinner served to 80 members and guests, Mr. D. M. Yost of the Sorg Paper Co., Chairman of the Ohio Section, presided at a brief business meeting and then called upon Mr. P. S. Cade, of the Harding Jones Paper Co. to introduce the speaker of the evening.

The group was privileged to hear Alexander G. Stone of the International Paper Company discuss the subject, "What Management Expects of a Technical Department." Mr. Stone is now General Manager of the International Envelope Corporation and also general manager of the Southern Kraft Division, York Haven Mill of the International Paper Company. His experience in the operation and management of many mills, including also the Rumford, Maine and Marinette, Wisconsin mills of the International Paper Company and others, indeed qualified him to discuss the subject with authority and his remarks were valued highly.

Mr. Stone prefaced his discussion of the subject with a brief review of the growth of the paper industry since the turn of the century. In this review, Mr. Stone gave the chemists and chemical engineers much credit for the part they played in the large increases in paper production, the increases in operating efficiencies and the improvements in paper products which took place during this time. He was particularly complimentary in his reference to the technical man's part in developing all the new grades of paper products during the last war.

Mr. Stone then continued by stating that some of the things management expects of a technical man are that he have a thinking, analytical mind, that he have a keen interest in every phase of the mill operation and not limit himself to theoretical science, and that he be a salesman. The speaker explained that the technical man is expected to be interested to the point of finding the answers to problems and learning where the answers may be found and that he approach such problems thoughtfully, with analysis of all the factors at hand. Being able to sell himself and his specialized training to the others in the organization, in short being able to get along and cooperate with people was given as another of the things expected. This, it was explained, requires a realization that the others in the organization have information and experience which he does not have and close cooperation is beneficial to all, since management needs a working team. The technical man was advised to be unafraid of hard work and long hours and thereby be in a position to catch troubles before they develop. Mr. Stone concluded his talk by emphasizing again some of his remarks for the benefit of the technical men just entering the field and again complimenting the technical men for their part in advancing the trade.

The fact that Mr. Stone is well known and well liked in the industry was clearly shown by the large number of those attending who came forward to greet him after the close of the meeting.

TAPPI Ohio Section Meetings

The Ohio Section of the Technical Association of the Pulp and Paper Industry has announced its schedule of meetings to be held in 1947-1948. All meetings will be held at the Manchester Hotel, Middletown, Ohio.

On October 14th A. G. Stone, General Manager of the International Envelope Corporation and the York Haven mill of the International Paper Company, talked on "What Management Expects of a Technical Department." Following is the remaining schedule:

November 13: Printing Paper Considerations
December 13: Power Plant Operations
January 8: Costs as a Tool of the Technical Man
February 10: Tests—What, When, How Many, Why?
March 11: Resins—A Key to Expanding Markets for New Papers

The Program Committee of the Ohio Section consists of Art Thurn, Chairman, Ed. Brandon, Bruce Brookbank, Edgar Turnbull and Bob McCarron. This committee met frequently during the past summer and has organized an exceptionally fine program of meetings. D. M. Yost of the Sorg Paper Company is chairman of the Section.

November 6 Date of Next Meeting of TAPPI Kalamazoo Valley Section

The next meeting of the Kalamazoo Valley Section of TAPPI will be November 6th, 1947 at the Columbia Hotel, Kalamazoo, Michigan.

The speaker is to be Dr. T. A. Pascoe, Technical Director of the Nekoosa Edwards Paper Co. who will present "Some Practical Aspects of Statistical Quality Control in the Pulp and Paper Industry." A panel of experts consisting of the speaker, Paul J. Thoma, Consulting Engineer for Time, Inc., A. C. Dreshfield, Consulting Engineer, and H. O. Ware, Manager Dairy Products Development, Hercules Powder Company, will answer questions after the formal paper. The program chairman is Richard Trelfa, K.V.P.

TAPPI Notes

Frank T. Peterson, formerly of the General Electric Company, is now engineer for the Victoria Paper Mills, Fulton, N. Y.

George E. Calef, formerly of the Dicalite Company, is now chemical engineer for the U. S. Navy, Guam, (Station 12, Box 3).

William G. Reynolds is now production manager for the Gulf States Paper Company, Tuscaloosa, Ala.

John E. Spalding, formerly of the American Viscose Company, is now process engineer for the Marathon Corporation, Menasha, Wis.

Arthur J. Haug, formerly of the Institute of Paper Chemistry, is now in the technical control department, Scott Paper Company, Chester, Pa.

Everett Uebrick is now technical superintendent, Sulphite Division, Port Huron Sulphite & Paper Company, Port Huron, Mich.

A. M. Mastrokalo, formerly with W. R. Grace & Company, is now chemical engineer for Rayon Peruana, S. A., Lima, Peru.

K. Helge Holm, formerly of the American Coating Mills, is now technical supervisor for the Barrett Division paper mill, Peoria, Ill.

Paul B. Fowler, formerly of the Morley Company, is now sales engineer for E. D. Jones & Son Company, Pittsfield, Mass.

B. R. Barder, President of the Biggs Boiler Works, Akron, Ohio has succeeded F. G. Sherbondy (deceased) as representative in the Technical Association.